

The Local Plan 2045 will be used to ensure
Oxford is a fairer, greener and healthier city

OXFORD LOCAL PLAN 2045

OXFORD CITY COUNCIL

Oxford City Council Response to Inspectors' Matters, Issues, and Questions

Matter 10: Climate Change

Issue 1 – Net Zero Buildings, Embodied Carbon and Retro-Fitting – Policies R1, R2 and R3

Q1 Is the principle of net zero carbon buildings, including preventing the use of fossil fuels for cooking and heating, justified by available evidence and consistent with national planning policy?

Yes, the principle is justified and consistent with national policy. It is also integral to supporting the legislative requirements on climate change, as we touched upon in the Stage 1 hearings, such as Section 7 (15C) of the Levelling-up and Regeneration Act 2023, which requires that the local plan is designed to secure that the use and development of land in the area contributes to the mitigation of (and adaptation to) climate change.

National policy (NPPF 2024) sets out that the planning system should support the transition to net zero by 2050 (para 161). It says that plans should take a proactive approach to mitigating climate change in line with the objectives and provisions of the Climate Change Act 2008 (para 162 including footnote 61); and should plan for new development in ways that help to reduce greenhouse gas emissions (para 164b).

The Climate Change Act 2008, as referenced in the NPPF, makes it a legal requirement for the UK to achieve a 100% reduction in net carbon dioxide emissions than the 1990 baseline by the year 2050. However, these cuts in emissions need to happen progressively, not at the last minute. Five-yearly UK carbon budgets have therefore been set which establish stepped reductions needed over time, including a 77% reduction in emissions between 2033 – 2037; and an 87% reduction between 2037 – 2042. It should also be noted that Oxford also has a net zero target established as a result of its climate emergency declaration which brings forward the net zero date to 2040.

This national legislative and policy context means that:

1. the Local Plan has a role in ensuring new development comes forward in a way that mitigates further impacts on climate change as much as possible, and
2. this new development should not happen in a way that hampers the city's ability to decarbonise existing sectors and transition to net zero over time.

The City Council is keenly aware of the fluctuating wider policy context in recent years which has served to create some ambiguity around whether Local Plans can set policies that require net zero carbon developments, including content of recent written ministerial statements and the current NPPF, which broadly mirrors that position. The City Council recognises that context, however, it is of the overriding view the central thrust of national policy supports this and that such policies are necessary to deliver on climate change legislation. Nothing in national policy precludes a local authority from setting a different, locally justified approach where that approach is supported by proportionate evidence, as it is considered has been done here.

Oxford is not alone in pursuing such a policy framework. Others have successfully adopted such policies in their Local Plans, such as Winchester, Central Lincolnshire, Bath and North East Somerset, or are in the process. The approach has also been supported by independent legal advice that has been produced by other authorities (RES.004a and RES.004b).

There is also a local context justifying the approach. Through the Local Plan, Oxford is expected to accommodate at least 9,041 new homes and 412,460sqm new employment floorspace over the plan period. Once in operation, this new development can increase carbon emissions in various ways most directly associated with the way energy is used such as for heating/cooling, cooking, lighting, operating appliances/equipment. Once built these homes and commercial properties will be in operation for many years, well past 2040 or 2050, and the Local Plan has an important role in helping to futureproof them.

For these reasons, during plan making process, the Sustainability Appraisal (SA) (CSD.004a) and the topic specific carbon reduction and climate resilient design background paper (BGP.001i), explored the idea that new development is likely to come at the cost of increased carbon emissions. The SA therefore identified an important role for the plan's policies to help deliver mitigation responses in order to reduce the likely significant effects as much as possible.

Whilst the specifics of the net zero carbon policy as set out in Policy R1 are discussed in our responses to latter questions, its high-level purpose is to set standards which should ensure that new buildings generate as much energy as they consume annually so as to minimise emissions associated with their operation. It therefore represents a key part of the mitigation built into the Local Plan in order to ensure new buildings do not further exacerbate climate change.

Of course, there are also a significant number of existing buildings in the city which have a role to play in the transition to net zero which the Local Plan also needs to consider. The Zero Carbon Oxford Partnership (ZCOP) Net Zero Carbon Action Plan (RES.010), which was produced in order to help identify how the city could reach its 2040 Net Zero Carbon target, identified that Oxford's greenhouse gas emissions can be attributed primarily to these existing buildings. It highlights (Figure 1, page 13) that more than 59% of emissions are attributed to buildings across the residential (25%), commercial (9%), and institutional sectors (25%), which was largely considered to be related to the high proportion of gas-heated buildings.

Whilst this baseline sector-by-sector apportionment is now a number of years old, it remains of relevance in clearly illustrating the significant role that the operation of existing buildings has in Oxford's overall contribution to climate change. It also flags the already significant need for retro-fitting to support the transition to net zero. This retro-fitting will likely need to involve a range of interventions, not only electrifying heating (and cooking) to remove reliance on fossil fuel-based technologies like boilers, but also a range of other fabric efficiency measures like improving insulation and glazing as part of a comprehensive approach. These interventions are typically going to come at varying levels of cost and disruption for occupants of the buildings which could otherwise have been avoided were these to already have been designed in from the beginning.

Where new buildings come forward which are not net zero carbon in operation, these will add further to the significant retro-fit burden as they too will need to be updated in future. This is because new buildings coming forward now can reasonably be expected to have lifespans in excess of the national net zero target of 2050 and the city's local 2040 targets. Thus, permitting development that is not of a sufficient net zero carbon standard now is in direct opposition to

NPPF para 161's objective of supporting the transition to net zero as it would effectively be adding additional cost and resource to future occupiers to deal with in order to help decarbonise Oxford.

Additionally, as set out in section 3 of BGP.001i, there are further drivers for the net zero carbon requirements, including that Oxford is already performing below the county and regional average for fuel poverty and that fuel poverty has worsened in the city in recent years. Key factors in fuel poverty are fuel prices and household energy consumption, and so, delivering buildings that are highly energy efficient can be an important way to help shield future occupants from being exposed to the same challenges. Also, as the city transitions to net zero, this will come with further demands on the energy grid to meet (e.g. as heating is electrified as well as transport), thus delivering efficient buildings that are capable of generating their own power can be valuable for reducing peak energy demands and freeing up capacity, particularly where these are coupled with local energy storage.

Of course, it is recognised that the separate compliance regime of the Building Regulations are in the process of going through long overdue revisions and updates as part of the introduction of the Future Homes and Buildings Standard (FHBS) which should deliver much better performance of new buildings in relation to emissions. The City Council has kept these emerging standards in mind as the Local Plan has emerged in tandem, however, it remains of the view that relying on them alone is not enough to mitigate impacts from new development on climate sufficiently, or to support the city's transition to net zero.

As provided in greater detail in answer to Q3, a reliance on national minimum standards within Building Regulations, even with the uplifts of the FHBS, are not sufficient alone due to the way they are structured including their focus on only 'regulated' energy demands which takes no account of what can be a considerable remaining proportion of energy demand in a building. Also, the FHBS uplifts are intended to ensure the building is 'net zero ready', meaning that it is designed in a way that means it would become net zero over time as the grid decarbonises, rather than meeting the generally accepted definitions of a net zero ready building in operation as of now. An alternative would be defaulting responsibility for net zero energy entirely to the national grid's decarbonisation however, the issue with that, as noted in BGP.001i, is that the national scale rollout of renewable energy generating technology needed to support a net zero grid has, to date, suffered from lack of strategy and investment at the required pace to achieve previously set targets. In the meantime, emissions related to grid energy use would continue to eat into the remaining carbon budget allowances.

As such, the principle of requiring net zero carbon buildings is considered to be necessary, entirely justified and consistent with national policy as well as relevant legislation. The policy requirements are important not only for helping to avoid adding to the retro-fit burden and saving future occupiers costs and disruption, but also for other reasons including helping to limit future exposure of occupiers to fuel poverty and also supporting energy security as the wider city transitions to net zero. They will also play an important role in addressing the limitations of national standards within Building Regulations as they are updated, which are not able to deliver the scale of performance needed of new buildings now.

Q2 What evidence is there to demonstrate that the requirements of Policy R1 can be achieved for the development types supported by the Plan, including high-energy uses such as commercial and economic development?

There is a substantial and legitimate body of evidence demonstrating that Policy R1 is technically achievable for the development types supported by the Plan, drawn from the technical feasibility studies of other authorities and synthesised in the Council's literature review (RES.001). From this analysis as well as drawing on previous feedback to the emerging policy, specific mechanisms have been built into the policy for accommodating high-energy uses and tall buildings, whilst also enabling the policy to flex to accommodate unforeseen circumstances.

The UK's built environment sector, through bodies such as the UK Green Building Council (UKGBC), the Low Energy Transformation Initiative (LETI), the Committee on Climate Change, and, most recently, the UK Net Zero Carbon Buildings Standard, have helped define what a net zero building in operation should look like. Their work has established a framework of common principles and performance metrics which are forming the basis of net zero carbon buildings policies nationally.

A significant influence on the development of the Local Plan's Policy R1 was the work of the LETI through their climate emergency design guide (RES.005). The LETI helped to establish a framework for determining performance of net zero buildings and used modelling to help inform a set of suggested targets for different building archetypes. As part of this framework they proposed the use of Energy Use Intensity (EUI) calculations as a way to measure compliance of buildings, as opposed to performance of carbon emissions against the Building Regulations Part L. LETI's work, alongside other bodies, has subsequently helped to inform the UK Net Zero Carbon Buildings Standard (UKNZCBS), which has been emerging concurrently with the Oxford Local Plan 2045, and further expands on and updates targets for a wider range of building archetypes.

Over the last few years, an increasing number of Local Plans have emerged and/or been adopted with similar net zero carbon building policies to Policy R1 that have also been guided by the work from bodies such as LETI. These Local Plans have been accompanied by detailed technical feasibility studies which have contributed to a growing body of relevant evidence reinforcing that net zero carbon buildings in operation are technically feasible. The City Council has kept this body of work under review throughout the development of the Local Plan and brought together the key findings of a range of studies (covering seven different local authority areas) into its Net Zero Carbon technical feasibility literature review (RES.001). This has formed the basis of the targets in Policy R1.

As set out in the literature review, these feasibility studies have tested the ability of a number of building typologies across the residential and non-residential typologies to reach the performance standards of net zero carbon buildings (see Table 2 in RES.001). The feasibility studies look at issues such as ability to meet a specific total operational energy use intensity target; space heating demand; as well as ability to meet energy needs through onsite renewables. They model performance using notional building templates, many of which would

be as applicable to the Oxford context as other urban areas e.g. a two storey terraced house; a low or medium rise block of flats; a three storey office block.

Section 4 of the literature review summarises the findings from this work into a number of sub-sections which also relate to the key parts of policy R1. The findings indicated the following in relation to Policy R1's requirements:

- **Policy R1 criterion b (total Energy Use Intensity) - see** RES.001 **paras 4.10 to 4.18:** For limiting operational energy and complying with a total Energy Use Intensity (EUI) target:
    - residential uses, which are typically more consistent in design and average energy demands, were generally able to meet a 35 kwh/m2/yr total EUI target, particularly where a heat pump was used for heating. Where direct electric heating was utilised instead, a slightly higher EUI target closer to 45 kwh/m2/yr was needed.
    - non-residential uses, which can cover a range of uses and therefore exhibit much more variety in design and average energy demand depending on function (e.g. offices or schools have differing energy demands than warehouses or retail), typically require a higher EUI target which can accommodate more variety. There were examples of offices and schools meeting standards of between 55 and 70 kwh/m2/yr total EUI, but also examples of warehousing and industrial units requiring limits closer to 100 kwh/m2/yr total EUI, though that was heavily dependent what particular power demands might be accommodated there.
- **Policy R1 criterion c (space heating demand) - see** RES.001 **paras 4.2 to 4.9:** Both residential and non-residential typologies are generally able to be designed with sufficient fabric efficiency measures to meet 20kWh/m2/yr and often a more stringent 15kWh/m2/yr space heating demand.
- **Policy R1 criterion d (fossil fuel free) - see** RES.001 **paras 4.27 to 4.29:** All the studies modelled their development using fossil-fuel free heating systems. The modelling did show that there were additional efficiency benefits for certain types of systems (e.g. heat pumps) which have a knock on impact for meeting other requirements (e.g. easier to meet stricter total energy use targets with more efficient systems). They also noted that some systems are easier to scale up to larger communal or district heat schemes, including air to water heat pumps and ground source heat pumps.
- **Policy R1 criterion e (renewable energy generation ideally onsite) - see** RES.001 **paras 4.19 to 4.26:** In terms of ability to match energy demands through onsite renewable energy generation, the studies found that generally the tested typologies had sufficient roof space to accommodate energy needs onsite and, in some cases, actually had spare capacity to generate surplus energy. This was typically the case for low rise developments (e.g. two storey houses, low rise blocks of flats, offices), however, onsite capacity was more likely to be exceeded in higher rise development meaning a need to rely on offsite solutions. Other design choices such as types of heating system and particular operational requirements can also influence ability to meet all energy needs onsite or not.

The literature review also evidences the need for flexibility in the policy, particularly with respect to a couple of scenarios as are discussed in section 5 of RES.001. The taller a building gets, the more challenging it is to incorporate sufficient onsite renewable energy generation (typically this would be rooftop solar PV in Oxford) to match the development's average energy demands. There are also certain types of non-residential uses that come with particular operational needs which are very energy hungry, such as laboratory equipment associated with research and development, and refrigeration associated with retail.

This evidence, which identified that the principal challenges arise for taller buildings and for uses with exceptionally high energy demand (such as laboratories), alongside feedback from previous rounds of consultation on drafts of the net zero policy (including for the now withdrawn Local Plan 2040), prompted the need for some flexibility around a couple of aspects of the policy. The policy therefore contains specific mechanisms to deal with these cases:

- An allowance for non-residential uses with exceptionally high energy demands to justify a higher total EUI target under criterion b of the policy. These are considered likely to be irregular but important cases in Oxford. This was considered more effective than incorporating additional specific targets which would be highly challenging to justify because of the potential diversity of different uses/operational needs that might have to be accommodated.
- An allowance for the development's total energy needs to be met through additional means other than just through onsite provision of renewables, including on land elsewhere in the city, or via payment into the City Council's energy offsetting fund.

In summary, there is a body of evidence, both from industry best practice in the built environment sector, as well as from local authorities across the country, as summarised in RES.001 which supports the requirements of Policy R1. The City Council has made reference to a range of technical feasibility studies which, whilst not focused on Oxford, have assessed the technical feasibility of delivering net zero on a range of comparable building typologies which are likely to come forward in the city. A bespoke consultant study commissioned for Oxford would in practice have drawn on the same literature and modelling, and the performance of a given building typology in one part of the country is not materially different from that of the same typology elsewhere. Rather than duplicating available evidence unnecessarily, this was considered to be a legitimate, proportionate and pragmatic approach to making use of available research nationally in order to inform the policy requirements.

The topic of net zero carbon buildings is fast-paced and ever developing, and it is not possible to predict the technical feasibility of every possible situation or development context that could emerge over the plan period. To that end, the evidence has also helped to identify where there may be need for flexibility in the requirements in order to future-proof it and this has been incorporated throughout the policy in order to accommodate unforeseen or exceptional circumstances.

Please note that to support effectiveness of the policy, the City Council identified a couple of further amendments to the supporting text's 'Policy Implementation' section, and the policy itself, in response to comments received at Reg 19 stage (see CSD.003 - Appendix 3, page 189 of PDF), as follows:

For bullet point 6 of 'Policy Implementation':

There may be circumstances where certain requirements may not be technically feasible onsite. Proposals could include delivery of additional renewable energy generation offsite on land under the applicant's control in order to match any deficit of delivery onsite. As a last resort, an element of offsetting can help deliver on the aims of the policy. Before offsetting will be accepted, the applicant must robustly justify that the earlier steps in the energy hierarchy have been exhausted and onsite/offsite energy generation is not possible to meet the development's EUI figure. Only then, will payment be accepted into the City Council's offsetting fund to mitigate remaining energy use via retrofitting of buildings elsewhere in the city.

Also amend wording of Policy R1 to clarify as follows:

All new buildings should be net zero carbon in operation~~. This must~~ and this will need to be demonstrated through submission of an Energy and Carbon Statement that details how all the criteria below have been met:

Q3 What is the justification for using a total Energy Use Intensity ('EUI') figure, rather than, for example, a Target Emission Rate ('TER')? What are the EUI targets based on and are they justified and achievable?

It is open in principle for the City Council to adopt a policy which utilizes Energy Use Intensity (EUI) metrics, provided that this is justified and the City Council has justified this proportionately. EUI is used because it is the most suitable means of accounting for total operation energy of a building (including regulated and unregulated energy) which the TER in Buildings Regs does not. Our response under Q2 helped set out how the particular EUI targets were identified, these were based upon the feasibility evidence summarised in RES.001 and RES.005, and are considered justified and achievable for the reasons set out below.

Policy R1 responds to the fact that carbon emissions associated with buildings once in operation are overwhelmingly associated with the way energy is used. At its simplest, framing the policy around Energy Use Intensity ensures that we are focused on issues around energy performance and design choices which influence the way energy is used.

The policy approach does not refer to performance in terms of the Building Regulations' TER because this has a different purpose. The TER sets a maximum limit for the amount of carbon emissions that are allowed based upon a notional building. For compliance, Part L of the Building Regulations requires that the proposed building is modelled and for its performance in terms of emissions (which is referred to as the Dwelling Emission Rate or DER), to be at or below the TER of the notional building. The metric is not one that assesses energy efficiency.

More broadly, it has long been documented that reliance on Building Regulations to deliver net zero carbon buildings is insufficient. For example, the Building Regulations process does not account for all energy uses, focusing only on 'regulated' energy, thus not taking account of the full operational demands of the building. Also, the focus on reducing percentage of emissions has been noted to lead to failures in driving actual efficiency, leading to situations where less well insulated/fabric efficient buildings are allowed for (counter to fabric first approach).

The Future Homes and Buildings Standard (FHBS) introduces uplifts in the Building Regulations requirements around fabric and technologies in a building, as addressed in Q1. The uplifts effectively make fossil fuel systems unacceptable in a compliant building and will require a proportion of renewables to be included (subject to certain exemptions) so that these buildings are 'net zero ready'. However, the FHBS updates will not change the situation with regard to the fact that Building Regulations only focus on part of the energy profile of the building, i.e. the 'regulated' energy demands. This means that they will continue to disregard unregulated energy uses such as from plug loads and equipment, which the LETI (RES.005) have estimated can be up to 50% of total operational energy demand. They are also limited by how far they assist with understanding the buildings performance in use, and driving energy efficient design.

As such, whilst the FHBS is undeniably an important step forward, as with the Building Regulations regime in general, it should be considered as the baseline which should be met as a minimum, it is not necessarily the standard which should be aimed for, particularly in light of national and local net zero targets, as well as other issues such as energy resilience and fuel poverty. The purpose of the requirements in Policy R1, including the use of EUI targets, is to make up for the various shortcomings mentioned above.

The use of EUI as the key performance metric allows for a measurement of the total operational energy (including both regulated and unregulated energy sources) used annually in the building. The EUI is also better representation of the in-use performance of the building, taking into account its general design specifications and various energy demands and can better represent how the building will perform in terms of energy use.

There is an abundance of technical feasibility work that has supported the identification of the particular EUI targets for residential and non-residential uses in Policy R1 as is summarised in the literature review (RES.001) and discussed in detail in our response to Q2. That assessment also helped to identify where particular development types might struggle to achieve these targets. These challenges are not weaknesses of the EUI approach, but rather, a result of the limitations of existing technology and the particular demands of certain typologies, which would be present regardless of how the policy's targets were framed (e.g. even if targets were framed around TER). The evidence has however helped to justify mechanisms such as an allowance for high energy uses and offsetting to be incorporated into the policy to ensure it is as effective as possible in light of these challenges.

Overall, the use of EUI targets within the policy is considered to be the most appropriate and effective way of measuring the performance of net zero carbon buildings as is generally the consensus among bodies such as LETI and UKGBC, which is why Local Plans with similar net zero carbon policies around the country have also been taking similar approaches to framing their targets. The approach is therefore considered to be both justified and achievable.

Q4 Have the requirements of Policies R1 and R2 been subject to appropriate viability testing? Combined with other policy requirements, will the development proposed by the Plan be viable and developable?

Yes, the requirements of Policies R1 and R2 have been tested as part of the Local Plan viability testing alongside other policies in the Local Plan, this is published in the Oxford Local Plan Viability Assessment (SUP.002). As is detailed in paras 4.19 to 4.23 of the Viability Assessment, cost uplift assumptions have been based upon findings from studies undertaken by a range of other authorities on the costs of achieving net zero carbon including those in London as well as more locally from South Oxfordshire and Vale of White Horse (neighbouring the City).

The Viability Assessment identifies that the costs of achieving net zero carbon in operation (Policy R1) are typically 5% of construction costs. The assessment also looked at the costs of achieving net zero embodied carbon as a top end or 'worst case' scenario, although it should be noted that the Local Plan does not in fact go this far in Policy R2. The report identifies that the costs of achieving net zero embodied carbon are still a matter of debate, with a range advised by specialists of between 0% and 10% (this would be additional to the 5% for operational net zero carbon).

The cost allowances built into the Viability Assessment also accommodate situations where developments might not be able to fully meet onsite renewables requirements and some degree of offsetting would be required – which is something that Policy R1 would allow for (the energy offsetting mechanism). However, in practice, this is subject to some uncertainty at plan-making stage as potential costs of offsetting can vary significantly between sites as it is highly dependent on a range of variables including the specific context of each site, its constraints, the operational needs of the building etc. Because offsetting is inherently site-specific, it is the offsetting mechanism itself, together with the affordability cascade in Policy S4 (which allows offsetting contributions to be reduced where justified on viability grounds), that provides the necessary flexibility.

Impacts on residual land values of the net zero carbon in operation requirement are tested alone and in combination with net zero embodied carbon. For a requirement of net zero carbon in operation alone, this was found to typically have an impact of around 5% to 8%, but there were noted to be higher reductions on larger residential schemes, care schemes, student housing and retail/office/R&D developments. It is noted that schemes which generate large surpluses above benchmark land values will be well placed to absorb both these costs and other policy requirements. However, in cases where the surplus is small, the reduction in residual land value resulting from the NZC policy requirement may need to be balanced against other policy requirements.

If the Local Plan's requirement was for both net zero carbon in operation and net zero embodied carbon (note: this does go beyond the policy requirements of R2), the impacts on residual land values are naturally more significant, reflecting the higher costs which are tested (of up to 10% embodied carbon which is added to the 5% for net zero in operation, resulting in a cost uplift of 15% of build costs for both residential and non-residential). The testing results indicate a typical reduction of between circa 23% and 43% from the baseline residual land values. The report notes that, in some cases, the percentage change is much higher, typically

where the starting residual land values are relatively low and the introduction of any cost increase will have a disproportionate impact on the residual land value. However, many schemes are found to remain viable after the requirement has been applied, depending on the benchmark land value selected.

Aside from specific appraisal of cost impacts for Policies R1 and R2, the Viability Assessment also has regard to the cumulative impact of plan policies in accordance with national guidance for a comprehensive assessment of all relevant plan policies in the viability assessment. The results (as discussed in paras 6.50 to 6.54) present a mixed outcome, with high levels of viability against benchmark land values in most areas, although flatted schemes are less viable in the lower value areas due to their higher build costs in comparison to houses. It is noted that the introduction of additional policy costs may have a disproportionate impact on residual land values where they are low before the policy requirement is applied. In relation to impacts from R1/R2, it would be the impact of adding a requirement of net zero embodied carbon to R1's net zero carbon in operation which has most significant impact on viability of schemes, which Policy R2 does not push anywhere close to in practice.

On cumulative impacts, the assessment concludes that, given the appraisals of cumulative impact of policy demonstrate that there are many development scenarios where the full suite of policies is viable, there is no reason to depart from the main policies. Whilst there are some circumstances where the full extent of emerging policies are not viable, the report flags the role of the explicit provision for scheme-specific viability to be taken into account (through Policy S4) at the development management stage. Policy S4 also makes specific allowance for incremental reductions in energy offsetting, which responds to the potential uncertainty at plan-making stage around viability impacts that could arise should a development come forward with significant need for offsetting which cannot be avoided.

In summary, the potential viability impacts of Policy R1 and R2 have been appropriately tested. When considered along with other requirements of the Plan, the policies are not considered to make development unviable or undevelopable and even so, there are particular mechanisms in place through Policy S4 to accommodate circumstances that cannot be foreseen at plan-making stage. Whilst net zero carbon requirements come with an additional construction cost, the Viability Assessment highlights that these costs are expected to reduce over time with ongoing research and development in the field. It should also be noted that much of the policy requirement will become necessary to achieve the statutory requirements of the Future Homes and Buildings Standard in the early part of the Plan period.

Q5 Is it sufficiently clear what is required of householder planning applications and small scale developments, such as the alteration and enlargement of existing homes?

It is recognised that some of the measures and design approaches that would be needed to meet criteria a) to e) of Policy R1 would not be feasible or reasonable to expect of certain types of application, including householder, change of use, extensions. The policy therefore seeks to clearly set out which criterion these types of application are expected to comply with in order to provide as much certainty to applicants as possible upfront and this is as follows:

- Householder applications are only expected to demonstrate accordance with criteria a).
- Proposals for conversions, and change of use (where they include works to the fabric of the building to facilitate this) that would require planning permission are only expected to demonstrate accordance with criteria a) and d)
    - unless they would result in the creation of a self-contained dwelling or non-residential unit, in which case all criteria apply.
- Extensions are expected to comply with criteria a), b) and c)
    - unless they would result in the creation of a self-contained dwelling or non-residential unit, in which case all criteria apply.

The expectation is therefore that all these types of application should as a minimum follow the energy hierarchy as far as is applicable (criterion a)). This is because the energy hierarchy essentially is a framework for thinking about how energy is used – it prioritises reduction in energy demand; then to think about using energy efficiently; then to meet energy demands as cleanly as possible (i.e. renewables). Most interventions that can be made to a building will in some way have an impact on part of the hierarchy.

Where any application, be it an extension, change of use, or conversion, would result in the creation of a self-contained dwelling or non-residential unit, the expectation is that proposals should follow all the criteria of the policy. This will help to ensure that future occupants of these developments benefit from the same quality of highly energy efficient building that is future-proofed for a net zero carbon future as other new buildings built in accordance with Policy R1.

However, upon further reflection having considered the question raised, we propose to consolidate the additional requirements that were set out for conversions, change of use and extensions that would not result in creation of self-contained dwellings or non-residential units. The following modifications are therefore proposed as follows:

Householder applications, extensions, conversions, and change of use (where they include works to the fabric of the building to facilitate this) that would require planning permission are only expected to demonstrate accordance with criteriaon a). ~~*Proposals for conversions, and change of use (where they include works to the fabric of the building to facilitate this) that would require planning permission are only expected to demonstrate accordance with criteria a) and d), unless they would result in the creation of a self-contained dwelling or non-residential unit, in which case all criteria apply. Extensions are expected to comply with criteria a), b) and c) unless they*~~ *Where any of these works would result in the creation of a self-contained dwelling or non-residential unit,* ~~*in which case*~~ *all criteria apply.*

Notwithstanding the suggested modifications set out above, the City Council considers that the policy is sufficiently clear as to the expectations of these typically smaller scale types of application with regard to Policy R1. As with the whole of the policy, it is challenging to set out expectations for every conceivable scenario, and there may of course be complexities with particular buildings or development scenarios which mean that compliance with the specified criteria is not possible. As discussed above, the policy includes clear guidance as to what is expected of applicants where full compliance with the policy is not possible.

Q6 What is expected of development proposals under Policy R2a)? Is the policy requirement justified and effective?

Policy R2a) requires applicants proposing demolition to demonstrate, proportionately in their energy and carbon statement, that re-use of existing buildings has been explored, including its carbon implications, before demolition. This is justified by the embodied carbon evidence in BGP.001i and, with the modifications proposed below, effective.

As operational emissions reduce due to energy efficiency measures and grid decarbonisation, embodied carbon will become a much larger proportion of a building's total emissions over its lifetime. This means that supporting the transition to net zero in line with the NPPF (para 161) also requires consideration of this issue. The intention with Policy R2 is to fill an existing gap in the adopted local policy framework, as well as in national policy, by setting our requirements for applicants to begin to take action on emissions related to the construction process.

The policy sets out a number of principles for new development to embed into the design process, including an expectation through criterion a) that the re-use of any existing buildings on a site has been explored and robustly demonstrated to be unfeasible before resorting to demolition. Of course, this will only be applicable to proposals on sites which have previously been developed.

As set out in section 3 of the carbon reduction and climate resilient design background paper (BGP.001i), there is an embodied carbon cost associated with the construction, maintenance, redevelopment and demolition processes of buildings. Even in the construction stage alone, carbon is emitted at various points including: in the sourcing of raw materials; their processing into supplies for construction; as well as their transport to a site. Conversely, the buildings themselves can act as 'sinks' storing carbon dioxide which would otherwise have been released to the atmosphere within their parts.

The future of the existing buildings across the city therefore has an impact on progress towards meeting national and local net zero objectives.

Existing buildings generally have a finite lifespan. They are subject to wear and tear which will ultimately render them no longer fit for purpose. This means expecting the retention and re-use of every existing building would not be practical nor realistic. Equally, there can be good place-making reasons why buildings on a site may be better replaced as the third bullet point within Policy R2's 'policy implementation' section of supporting text acknowledges.

However, where the building still potentially has many years of usable life to it, the demolition and replacement of it effectively results in a loss of any benefits that came from much of the previous emissions related to its construction, as well as emissions locked up within its structure.

The primary justification for criterion R2a) is therefore about requiring proposals which propose demolition of existing buildings to pause and consider whether these structure might be able to be adapted or repurposed so as to make use of (or extend) any remaining usable life in them before proceeding to replacement. Without having such a requirement in the Local Plan, it

would be highly challenging to ensure that opportunities have at least been considered, whether they prove to be ultimately feasible or not.

The requirement is also considered justified in that it seeks to guide the development process more closely towards circular economy principles and the recognition that natural resources we rely on are not infinite. As figure 3.3 illustrates in BGP.001i, a traditional linear economy approach would generally see these structures and materials ripped down and disposed of at the end of their life, however, this comes at a cost to all of the carbon that was previously emitted in constructing and maintaining the building. Circular economy approaches disrupt this waste by seeking to ensure products like buildings are able to be repaired and reused easily, whilst also looking for ways that the energy and materials used to construct them can be remanufactured and recycled at the end of their life.

The expectation will be that applicants with existing buildings on their site have demonstrated through their energy and carbon statement that they have given due regard for whether these existing buildings could be re-used. The supporting text sets out some reasons for why this might not be the case including that the building is no longer fit for its intended purpose or the needs of users; is of an age/construction that means it is inefficient in terms of energy use; a new building will be of more benefit to achieving wider place-making. Because the focus of the policy is on embodied carbon impacts, there will need to be some demonstration of how they have considered carbon impacts of any demolition/replacement, versus retaining and reusing the existing buildings. As the supporting text sets out, the level of detail should be proportionate to the size and scale of the development.

However, we identified in our responses to the Reg 19 consultation (CSD.003 - Appendix 3 - pages 201/202 of PDF) that the wording of criterion a) could be tightened up by focusing it more strongly towards considerations of long-term sustainability, as opposed to the broader focus of 'feasibility'. This could also improve effectiveness by better guiding applicants towards thinking about the balance between long-term sustainability of the site and impacts in terms of carbon emissions, as is the broader focus of the policy. We have therefore identified a potential modification which could help to address this if necessary:

a) Re-use of any existing buildings on a site has been explored and robustly demonstrated to be ~~unfeasible~~ contrary to the long-term sustainability of the site before resorting to demolition. This should include consideration of the impacts on carbon emissions.

This would also be accompanied by updates to the supporting text as follows:

Whilst the policy does not mandate retention of existing buildings, criterion a seeks to ensure that applicants demonstrate that they have considered opportunities ~~whether it is feasible~~ for retention and re-use of buildings on a site, before resorting to demolition. Demolition would only be acceptable where it can be shown that their retention would be contrary to the long-term sustainability of the site. In the context of this policy, this means that r~~R~~eplacing buildings may be justified where the embodied carbon impacts are outweighed by~~, for example~~:

In summary, the City Council considers that the requirement for exploring re-use of existing buildings in the first instance as part of this policy is a reasonable and justified one in light of the potential significant impacts demolition and replacement of buildings can have in terms of

embodied carbon. It is considered that the proposed modifications identified above would help to make the policy more effective in guiding applicants towards thinking about the balance between long-term sustainability of the site and impacts in terms of carbon emissions. As with policy R1, we expect that a supporting Technical Advice Note can help to flesh out guidance and support for applicants in meeting the expectations of the policy, including this criterion.

Q7 What are the thresholds in Policy R2 based on?

The Whole Life Cycle Carbon Assessment (WLCCA) threshold (100 or more dwellings, or 10,000m2 or more non-residential floorspace) was set by reference to Oxford's local context, namely the size of sites identified in the SHLAA, and to the capacity of the development management team and the burden on applicants, so that the requirement is focused on the city's largest schemes.

Whilst accounting for embodied carbon can be a complicated and technical process, the intention with Policy R2 was to introduce some high-level requirements for all proposals to consider, on the basis that there are often simple design choices which can nevertheless have consequential impacts. Having a policy with an appropriate range of principles set out for proposals to respond to helps to ensure that the easy opportunities are not missed.

For that reason, the first part of the policy, including the principles in a) to e), apply to all new development. In practice, some may not be applicable, particularly a), however, generally most will have some relevance to every application. Proposals are expected to respond to them with a level of detail that is proportionate to the scale of the development.

Whilst it was considered justified and reasonable to ask all proposals to respond to the above, to truly understand the scale of a development's impacts in relation to embodied carbon, as well as the extent to which design has been tailored to address this, it is valuable for this to be quantified. WLCCA is a means through which this can be achieved.

The second part of the policy therefore sets out some additional requirements for larger scale developments, including quantifying and demonstrating reductions in embodied carbon through the design process via completion of Whole Life Cycle Carbon Assessment. The policy defines large scale new-build development, as developments of 100 or more dwellings, or 10,000m2 or more non-residential floorspace.

It is acknowledged that this threshold is set higher than some respondents to the Reg 19 (and earlier Reg 18) consultations would have wished, whilst others felt that the requirement should not be included for any scale of development. However, the City Council has come to determine that this is the most appropriate threshold for the policy based on a few considerations.

Whilst it is an increasingly common place requirement for the development industry, particularly as local authorities across the county such as within London set similar requirements, a policy requiring WLCCA would be new for Oxford. Despite the guidance that has emerged, including recognised methodologies and standards to assist in the process, it can still be complex and demanding in terms of data, expertise, and time to be completed

effectively. As such, the City Council expects that there will need to be some level of adjustment and learning for developers in the city, as well as planners, and it was considered to be too onerous to immediately require this of every development.

Instead, the decision was taken to prioritise the requirement to larger developments which were considered much more likely to have higher embodied carbon impacts; the likelihood of more construction activity/traffic movements; as well as more resources being used. There was some consideration as to whether the focus could be on all major development, however, this was also considered difficult to justify, given the additional demand on development management capacity and the burden on applicants of smaller major schemes. Officers therefore reviewed the types of sites identified through the SHLAA work, particularly those with development potential under Table B (HEA.004b, pages 140-144), and sought to frame the requirement so that this would only be necessary on the exceptionally large sites for Oxford's particular context.

Having subsequently discussed these thresholds with members of the development management team, who would ultimately be assessing applicable applications, as well as factoring in feedback on the Reg 18 and Reg 19 consultation, there is no clear evidence or opinion to justify that any other particular threshold is more justifiable. There were views expressed that WLCCA is already quite commonplace amongst major applications in the city meaning a lower threshold could be inconsequential, however, there were also concerns expressed about the additional demands a lower threshold (e.g. all majors) would have upon applicants of smaller major schemes.

As such, officers feel comfortable that the identified threshold is proportionate and justifiable based upon the range of considerations detailed above. The requirement of WLCCA in Policy R2 will allow an additional level of rigour and support to be focused on the impacts of the largest schemes expected to come forward in the city over the Plan period, whilst other elements of the policy (e.g. criteria a) to e)) will ensure that embodied carbon is considered more broadly on smaller schemes.

Q8 What is the justification for Policy R3c), which refers to "professional advice"? How does this relate to the acceptability of a development proposal? Is the policy justified and effective?

Oxford, has a high density of traditional buildings, including many which are designated as listed buildings, or within conservation areas; or locally listed via the Oxford Heritage Asset Register. There are also many other structures that might not be formally protected but that have unique features or character which still make a valuable contribution to the wider city and its setting. The Local Plan has an important role in protecting these heritage assets for the enjoyment of current and future generations, but that doesn't mean they should be frozen in time. Indeed, the City Council recognises that there is a pressing need to retrofit existing buildings in the city of all ages, not only to support the transition towards a net zero carbon future through various energy efficiency upgrades, but also to help adapt them to future climate change.

The balancing act between conserving and enhancing our historic buildings whilst also supporting the city's strong ambitions around responding to climate change is one that the Local Plan needs to try to facilitate. The City Council regularly hears from residents about the challenges and difficulties they can face in navigating the planning system when it comes to trying to retrofit older buildings, particularly in terms of balancing out the benefits of retrofit versus mitigating their impacts on heritage. A key driver of Policy R3 was therefore to set out the City Councils strong support for retrofit, whilst also identifying some clear guidance to follow in relation to traditional buildings in order to put applicants in the best place to succeed with their application.

The additional expectations for applications impacting traditional buildings responds to a couple of key challenges. Firstly, traditional buildings, particularly designated ones, can be highly sensitive to change, and the impacts of particular interventions on their historic context can sometimes be complex, unclear and irreversible. Whilst there is an increasing breadth of options in terms of retro-fit measures which are designed to have lower visual impact (e.g. solar tiles; vacuum-thin glazing), additional care and consideration is still needed in how these are incorporated into older buildings to reduce conflicts with historic setting.

Secondly, traditional buildings are often constructed in ways which can make today's methods of retro-fitting inappropriate or harmful (to the building and occupants) compared with modern buildings. For example, these buildings are often reliant on passive ventilation processes which allow them to 'breathe', and this can be disrupted when introducing measures like insulation or draught-proofing which seek to make buildings more airtight, leading to damp build up and harmful mould. Again, additional care and consideration is needed in the planning stages to help avoid 'maladapation' which can have unforeseen impacts for the buildings, but also the occupants.

The policy therefore requires applicants to take a whole building approach to retro-fitting traditional buildings - something which was also agreed with Historic England in an earlier stage of drafting the policy for the withdrawn Local Plan 2040. The whole building approach helps to ensure a methodical assessment is taken to the context of the building, including particular heritage sensitivities, as well as how it is currently performing in terms of energy use. It should also help to ensure the challenges discussed above are factored in appropriately to inform retro-fit projects and help maximise positive benefits whilst minimising negative impacts.

As part of the list of principles which the policy sets out, it was considered important to refer to the potential need for professional advice for a range of reasons including because appropriate professional advice can:

- help applicants to understand the features that contribute to a building’s heritage significance, and help to inform the design process of a retro-fit project so as to ensure that changes to the building are done in a way which minimises harm, particularly to the most sensitive aspects.
- help in understanding the particular qualities of a building and how it is performing, particularly where this might not be clear to an untrained eye. Alongside tools such as energy modelling, this can help to optimise energy efficiency/carbon savings and reduce ‘the performance gap’ by helping to ensure that any predicted performance

improvements are fully realised through appropriate specification, detailing, and installation.

- help to identify in advance whether the impacts of a particular retro-fitting intervention, such as implementing additional insulation to improve fabric efficiency, can have knock on impacts which need to be carefully managed, such as how moisture build up will be managed.

Ultimately, because the topic of retro-fitting traditional buildings successfully can be quite complicated and subject to a variety of potentially complex considerations, professional advice can be invaluable in helping to identify and overcome known and unknown challenges. Evidencing that reference has been made to such advice can be beneficial in helping to demonstrate to a decision maker that the relevant considerations have been taken into account in the design process when a planning application is submitted.

Of course, depending on the context of the proposal, there will be times when advice will be more necessary/advisable than others. More extensive retro-fit projects, or proposals which impact highly protected buildings (e.g. Listed Buildings) are likely to warrant more extensive advice than others for example. The experience of the City Council is that many applicants do seek professional advice on retrofitting historic buildings and that this advice is valuable in informing the form and level of detail of an application which therefore leads to better and more timely outcomes. The policy therefore does not make it a fundamental requirement that advice is sought. However, because the intention of the policy is as much about trying to provide more certainty/guidance to applicants in response to a perceived lack at present, the City Council considers it justified to flag this as a key principle to consider in the body of the policy.

On a separate note, please note that we have identified the need for a minor mod to update policy refs under criterion b) as follows:

b) Any harm to the heritage significance of the asset has been minimised and mitigated as much as possible through careful design choices and in line with requirements of policies ~~HD1-HD6~~HD3, HD4 and HD5;

c) Professional advice has been sought from historic environment and energy/climate experts to inform proposals where necessary/appropriate;

Issue 2 – Air Quality – Policy R4

Q1 What is the justification for Policy R4, which requires Air Quality Assessments ('AQAs'), for all major developments, regardless of location?

Policy R4 seeks to ensure development is sensitive to the local challenges and objectives regarding addressing air pollution in Oxford and responds appropriately. The Natural Resources background paper (BGP.001j) provides much of the context justifying this policy. This includes that the city of Oxford is a tightly constrained urban area that experiences high levels of traffic and congestion, which are primary contributors to air pollution (as also identified in the Sustainability Appraisal (CSD.004a)). As a result of ongoing issues with air pollution, particularly in relation to emissions of Nitrogen Dioxide (NO_2), there is a city-wide designation of an Air Quality Management Area (AQMA; see RES.007), with an Air Quality Action Plan (AQAP; RES.008) in place to address air quality issues in the city.

The background paper summarises the current situation as outlined in the City Council's Air Quality Annual Status Report, which finds that work associated with the AQAP has resulted in successes in reducing pollutants and improving air quality. However, the importance of continuing to manage and further reduce air pollution is also noted, due to its known impacts on health, particularly for the most vulnerable, its contribution to health inequalities, and its impact on sensitive habitats and biodiversity (an issue further detailed in the HRA, CSD.005). The need for ongoing action to tackle air pollution is also a key driver behind iterative versions of the City Council's AQAP which have sought progressively tighter targets in terms of reducing annual average nitrogen dioxide (NO_2), with the most recent version (published in February 2026) seeking to bring this down to 20 µg/m^3 by 2030 ("20 by 30").

While transport remains the primary area for action, the Local Plan has sought to align its policies where relevant with achieving the AQAP's objectives. Policy R4 requires AQAs for major developments to be clear on their alignment with the city's air pollution targets in the AQAP. It does not prescriptively block development with potential impacts on air quality, but requires proposals to seek appropriate, practicable avenues to minimise impacts through design, mitigation, and offsetting.

This approach aligns with national policy, including Paragraph 198 of the NPPF, which requires plans to '*ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development*'.

Considering Oxford's designated city-wide sensitivity to air pollution, Policy R4's requirement for major developments to provide an assessment of the potential effects of pollution is considered justified.

Issue 3 – Water Resources, Soils and Land Contamination – Policies R5, R6 and R7

Q1 What are the thresholds in Policy R5 based on, and are the requirements sufficiently clear, effective and justified?

Oxford, like many parts of the country, faces a range of pressures on its water environment which make it important for the Local Plan to set standards for new development. Whereas the adopted Local Plan has sought to address the protection of the water environment holistically across various policies, the City Council has brought its requirements together and expanded upon them within a specific policy for Local Plan 2045 in recognition of the seriousness of the issue. This was an approach that was particularly supported by the Environment Agency.

As set out in the Water Cycle Study Scoping Report (RES.002) and the Natural Resources background paper (BGP.001j), Oxford falls within an area designated as in 'serious water stress' according to the Environment Agency meaning that demand for water supplies takes up a high proportion of available rainfall to meet those demands. Meanwhile, the city's watercourses are being negatively impacted by ongoing pollution from a range of sources including as a result of sewage discharges, agricultural nutrient inputs, pollution flowing from roads/urbanised areas and invasive species (see Table 15, page 35 of RES.002) which are impeding their ecological quality and puts the health of people, species and habitats at risk.

Another driver for Policy R5, as set out in BGP.001j, is the Water Environment Regulations, which seek to ensure that the biological and chemical quality of watercourses in England and Wales reach a “good standard”. The Thames River Basin Management Plan provides a framework for implementing the regulations and addressing a number of significant water management issues impacting its catchment and the Local Plan can support this. Equally, the policy is important for meeting various expectations set out in the NPPF 2024 including:

- The need for taking a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications of water supply (paragraph 162), and
- Preventing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of water pollution and, where possible, should help to improve local environmental conditions such as water quality, taking into account relevant information such as river basin management plans (paragraph 187).

Policy R5 therefore seeks to ensure applicants address both the issue of water supplies and protecting water quality as far as is practicable and asks them to include a water awareness statement as part of their application to demonstrate how they've met the requirements.

In relation to protecting water supplies, part A) of Policy R5 requires developments to achieve an estimated water consumption of no more than 110L per person per day, which is already a requirement of the adopted Local Plan 2036. The 110L/person/day target is currently the strictest standard which can be enforced by local authorities where evidence is available, and is supported by the EA and by DEFRA's 2023 Environmental Improvement Plan. In response to previous comments from Thames Water, the policy directs plan users to the 'Fittings Approach'

set out in Building Regulations part G2 as they consider this to be the clearest and most effective way of securing the target.

Whilst national policy limits the Local Plan's ability to set tighter water consumption standards than the optional Buildings Regulations' 110L limit, the policy encourages proposals to go further in terms of efficiency than the 110L/person/day threshold. It also asks applicants to demonstrate what other measures have been incorporated into the design to conserve water use and expands on what these could entail through the 'policy implementation' supporting text. It was considered important to ask applicants to think about what actions can be taken through the design process to secure further reductions in water use in recognition of the city's water stressed nature, and in the face of climate change bringing increased risk of drought in future. Indeed, it should be noted that, as flagged in the Water Cycle Study Scoping Report (page 17), the EA strongly support the implementation of tighter per capita consumption standards for new developments including pushing towards 90L/person/day by 2035.

In relation to water quality, the City Council is keenly aware of concerns in relation to ongoing pollution within the city's water environment and the potential impacts of further development within the city. As such, Policy R5 is clear that proposals should demonstrate that development will not have an adverse impact on the quality of controlled water bodies and groundwater. The policy sets out some examples of how adverse impacts can be demonstrated to be mitigated, although there is flexibility to enable applications to respond appropriately based upon the particular context of the proposal and the site.

Additionally, part C) of the policy sets a threshold of 100 dwellings, 7200m2 of non-residential development, or 250 student rooms for the provision of a Foul and Surface Water Drainage Strategy. Policy options were considered in the Natural Resources Background Paper (BGP.001j) and these thresholds were deemed appropriate to carry forward from the 2036 Local Plan (DPL.001), as they respond to the potential for larger developments to produce larger scale impacts that should be shown to be mitigated and managed through a strategy. Whilst this additional requirement exists for larger developments, smaller scale applications will still be subject to other drainage requirements as set out in the Local Plan including providing appropriate sustainable drainage systems (SuDS) in line with Policy G8. The requirement for a strategy here does not duplicate the SuDS policy, but ensures that the management of drainage is demonstrated in a way proportionate to the potential impact of development. It is therefore considered clear, effective, and justified.

The policy implementation encourages early engagement with Thames Water to help ensure that where new development has potential for necessitating local network upgrades to facilitate water supply or wastewater infrastructure these are identified as soon as possible.

Through discussions with the Environment Agency as part of the Statement of Common Ground (COM.008), a couple of modifications were agreed that would overcome remaining concerns they had in relation to the policy which are as follows:

The addition of new bullet point under 'Policy implementation' section as follows: Relying upon private wastewater drainage methods, such as septic tanks, introduces additional environmental risks as it will typically fall on the owner to ensure that they are appropriately

maintained in future, in order to avoid wider contamination due to spills/leaks. Developments are therefore expected to connect into the public sewer system for drainage of wastewater unless an alternative approach can be robustly justified, such as by showing that public sewer connection is unfeasible, or that there would be additional environmental benefits that would outweigh the potential environmental risks.

Addition of paragraph to section C) Foul and surface water drainage, in between the two existing paragraphs, as follows: Proposed development should avoid utilising private wastewater drainage systems where a public sewer connection is available, unless the necessity of this can be robustly justified.

Notwithstanding the above, the requirements within policy R5 seek to ensure that applicants appropriately consider and respond to potential for impacts on the water environment. The policy is one part of the Local Plan's response to ongoing challenges facing water suppliers and water quality, alongside other policies such as those requiring appropriate levels of greening and SuDS (which help to slow and filter water before it reaches water courses), as well as requirements for infrastructure provision as set out in Policy S3. The City Council considers the requirements to be sufficiently clear, effective and justified.

Q2 Are Policies R6 (Soil Quality) and R7 (Land Contamination) justified, effective and consistent with national planning policy? Are the requirements in Policy R6 applicable to all development proposals, and if so, is this proportionate?

Policy R6 (Soil Quality)

Oxford's constrained nature means that we need to use our natural resources prudently. Policy R6 reflects the importance of soils as natural resources which serve multiple functions and take significant time to replenish. As outlined in the Natural Resources background paper (BGP.001j), soils contribute to mitigating flood risk, supporting healthy habitats, and acting as carbon sinks. However, soils can be easily damaged and degraded through the development process and this can hinder their ability to provide for these valuable functions. The policy is therefore considered justified in including measures to protect soils with consideration of their quality and to manage soils sustainably.

The policy sets out a number of criteria for how soils should be considered in the design process and that these should be responded to through the Design and Access Statement and associated landscape plans. Whilst these criteria apply to all applications, the relevance of these considerations will vary depending on the particular site and the proposed development of course. There is flexibility to respond in a proportionate amount of detail for the scale of the proposed development and applicants are free to identify where these are not applicable.

However, on further reflection, it would potentially improve effectiveness to be clearer that certain types of application are excluded from this requirement due to their small scale and unlikely impact and we would propose the following modification:

Planning applications, excluding householder development, conversions and change of use, will be expected to demonstrate how the impact of development on soils has been mitigated and opportunities for conserving and enhancing the capacity/quality of soil maximised.

Peat-rich soil deposits are particularly valuable in service of important functions including water management and storage, carbon sequestration, and maintenance of archaeological deposits, and they take significantly longer to accumulate, as such, the policy seeks to safeguard these particularly. The expectation is that permission will not be granted for proposals that would remove or dewater $10m^3$ or more of peat.

Whilst peat reserves are not expected to be extensive across the city, as outlined in the background paper, Oxford contains several peat deposits which have previously been identified and mapped by Historic British Geological Survey/Natural England (these are identified on the policies map to provide clarity to applicants about where concerns about peat are particularly relevant). However, there can be some uncertainty in this mapping and in discussions with Natural England it was identified that there is potential for additional deposits which have not been officially recorded. The policy accounts for this uncertainty by requiring further precautionary assessment on undeveloped land (where there is more potential of undisturbed peat) within 200m of these known peat reserves.

Paragraph 187 of the NPPF supports the protection and enhancement of soils in a manner proportionate to their status or identified quality and the prevention of development contributing to unacceptable soil pollution. It is considered that the approach as set out in Policy R6 is in accordance with this, seeking to protect and enhance soils in general by asking applicants to demonstrate how they will minimise impact on soils (particularly the highest quality soils) and manage them sustainably where possible, whilst establishing further protection for some of the most sensitive/valuable types of deposits in the city.

Following on from the Regulation 19 consultation, we did identify the potential for a modification to improve effectiveness of the policy and respond to concerns that applicants might have to duplicate information already being prepared in other parts of their application. We would suggest an additional bullet point being added to 'policy implementation' supporting text as follows:

Whilst the policy seeks to ensure that all of the relevant information that would need to be referenced in order to assess how the requirements have been responded to is included in one place, applicants are welcome to make reference to other documentation in their application, such as Construction Management Plans, where applicable.

Policy R7 (Land Contamination)

Oxford has a long history of settlement with different parts of the city having hosted a variety of types of land use in the past some of which can and have left behind a legacy of contaminated materials and other pollution which can pose a serious health risk to people as well as the wider environment.

Paragraph 124 of the NPPF encourages the use of brownfield land and land remediation, particularly in order to make land available for development that meets identified need.

Oxford's constrained plan area with a relatively large proportion of brownfield sites and high unmet housing need make this particularly important to facilitate through local plan policy, while ensuring that the health and environmental risks associated with contaminated land are properly assessed and remediated to make land suitable for use in line with NPPF Paragraph 196.

Policy R7 makes clear to plan users what is expected of applicants in terms of assessment, investigation, and remediation measures to accompany proposals. It ensures applications are accompanied by appropriate investigation of land contamination where it could be present and ensures remediation will make it safe. The policy is largely a continuation of the existing policy in the 2036 Local Plan which has been working successfully for some time, with minor revisions related to sustainable remediation and additional details of what applicants should include in investigations of potentially contaminated land, which ensure the policy is effective.

Issue 4 – Flood Risk and Sustainable Drainage – Policies G7 and G8

Q1 Where site allocations are concerned, will development proposals be able to meet the requirements of Policy G7, having particular regard to criterion q) and the restriction of built footprints?

Development proposals on site allocations will be able to meet criterion q) of Policy G7, as the Level 2 Strategic Flood Risk Assessment (SFRA) (GRE.016) demonstrates that for those few sites that contain Flood Zone 3b, either development can be entirely avoided in this flood zone, or careful design can avoid redevelopment of a site further encroaching on Flood Zone 3b. Further encroachment on Flood Zone 3b would increase flood risk on and off site and would conflict with the intention of this policy which is to minimise flood risk. Intensification of a site, such as building upwards, may be acceptable providing that all relevant criteria in the policy are met and that there is no conflict with other relevant policies in the Plan (CSD.001).

For clarification, modifications to the supporting text Policy Implementation for Policy G7 were suggested in the Statement of Common Ground with the Environment Agency, as follows:

Amendment to 4th sub-bullet of 3rd bullet as follows: *flood compensation measures e.g. creating new flood storage to mitigate any loss of storage through development (i.e. level for level should be the main method of flood storage compensation).*

Also add additional 5th bullet as follows: *Site-specific Flood Risk Assessments should apply Flood Zone 3 from the Flood map for Planning as a proxy for Flood Zone 3b to ensure a precautionary approach is taken where local detailed modelling is not available or feasible.*

Q2 What is the justification for setting out the requirements for surface water runoff in Policy G8? Would this apply to all development proposals, and if so, is the approach proportionate?

As per the Council's current approach in Policy RE4 of the Oxford Local Plan 2036, it is expected that all development proposals will be expected to manage surface water run-off through SuDS. There is more flexibility built into the proposed approach, as the policy does state "will be required where feasible", allowing for circumstances where infiltration is not the most suitable drainage method. However, the drainage hierarchy applied is identical and reflects guidance contained in the National standards for sustainable drainage systems (SuDS).

Managing and mitigating for flood risk is extremely important in Oxford, therefore the Council considers that this approach is proportionate. Consequently, more emphasis has been placed on the importance of green SuDS and their multi-functional benefits including helping to address flood risk. Too often, green SuDS are considered at too late a stage in a scheme. If they are considered in the conceptual and design stages, they are more likely to be able to be well-designed into the proposal and not result in inefficient use of land. They can provide a multitude of benefits that grey SuDS can't, including providing open space for recreation, habitats to support wildlife and adaptation to other climate hazards such as overheating. The existing policy in the Oxford Local Plan 2036 has similar drainage requirements and has been working effectively, therefore the Council sees no reason to deviate from this approach. For clarification,

a modification to the supporting text Policy Implementation for Policy G8 was suggested in the Statement of Common Ground with the Environment Agency, as follows:

Add additional 6th bullet as follows: *Deep infiltration features/soakaways are generally not endorsed.*

Q3 Is the requirement for compliance with external guidance in Policy G8, which falls outside the scope of the development plan, justified?

In the absence of national policy and guidance on SuDS at the time, Policy RE4 of the current Oxford Local Plan 2036 contains a requirement for major development to have regard to Oxfordshire County Council guidance. Since then, the National standards for sustainable drainage systems (SuDS) have been published and on reflection, the Council considers that the reference to the County Council's guidance can be omitted from the policy. The Council also notes that the previous RE4 policy also had 'regard to' other City Council guidance rather than 'in accordance' with, and on further reflection, considers that this should also be amended.

To address this, the Council suggests the following modifications to the penultimate paragraph of Policy G8 (Sustainable Drainage Systems):

For minor developments, SuDS must have regard to ~~should be designed in accordance with~~ the City Council's latest SuDS design standards, or any equivalent replacement document. For major developments, SuDS should be designed in accordance with the national standards for sustainable drainage systems ~~(~~or any equivalent replacement document ~~national or county-level standards that supersede them)~~. Details of the SuDS must be submitted as part of a drainage strategy or FRA where required as part of a planning application submission, and must be submitted prior to determination unless agreed otherwise by the LPA.

Issue 5 – Resilient Design and Construction – Policy G9

Q1 Is it sufficiently clear to users of the Plan what is required of development proposals under Policy G9, such as "measures to ensure water is used prudently" and "supporting infrastructure which is designed to function in extreme weather conditions"? Is the policy effective?

As was discussed through the Stage 1 hearings, including through our response to Matter 1, Issue 5, the City Council has strong ambitions for the Local Plan 2045 in relation to driving climate resilience and ensuring new development is adapted to the changing climate. We set out some key points around the justification for this as part of the Matter 1, Issue 5 response, including that areas of the city are some of the most at risk from climate change in the county and that this was why climate change was a key thread running throughout the Plan. Whilst many of the policies in the Local Plan will help with building resilience, Policy G9 plays a particularly important role in ensuring that resilience to future climate hazards is a priority for applicants to address, requiring them to consider the design process through the lens of climate adaptation.

The nature of climate risk is that it is ever-changing, and the vulnerabilities to its impacts will vary depending on the nature of the site and the proposed development, as will the opportunities to design in resilience. As such, Policy G9 needs to balance out the need for enough specificity to ensure applicants are clear about what the City Council will be looking for from their application, whilst also retaining flexibility to accommodate a variety of contexts as well the potential for new and improved solutions/technologies that could emerge over the Plan's lifetime.

Chapter 4 is divided into three sub-sections, 'Green and Blue Infrastructure Network' (Policies G1-G3); 'Biodiversity and the Ecological Network' (Policies G4 – G6) and 'Climate Resilient Design' (Policies G7 – G9) and each has some introductory context. The supporting text of Policy G9, as well as the introductory text to the Climate Resilient Design sub-section of the chapter (on page 78 of the Local Plan), identify some of the key risks, but applicants will need to consider these alongside their own analysis to ensure that they respond appropriately in the context of their proposal.

Policy G9 is positively worded, setting out that permission will be granted where applications have been designed with regard to the most up-to-date climate change projections and where applicants have addressed the key risks with regard to three dimensions of their proposal - the occupants, the development itself (i.e. the building and wider site), and any supporting infrastructure.

The second paragraph of the policy is clear that the requirement applies to all proposals, as climate change will have impacts on all types of development to varying degrees, although for the purposes of proportionality, householders are generally excluded. It sets out that the requirements of the policy could be demonstrated through the Design and Access Statement, though we would propose a modification that make it more specific that it should be through

the Design and Access Statement where one is required. This would help with consistency for applicants and for how applications are assessed. Suggested mod as follows:

All proposals, excluding householder applications, unless this is required as part of other policies in the Local Plan, will be expected to demonstrate (which should~~could~~ be as part of the Design and Access Statement where it is required) that the following resilience requirements are incorporated into the design:

The policy then goes on to set out a series of five requirements that should be incorporated into the design. The first, criterion a), is intended to ensure that design interventions are based upon a reasonable assessment of climate risks that is based upon relevant future projections. If the projections were indicating that average summer temperatures are expected to rise by 2 degrees celsius by the year 2050, for example, this context should be utilised when thinking about how internal temperatures will be kept at a reasonable level for occupants.

This will require applicants to consider available climate change projections which can give an indication of how climate will change over the lifetime of the development, including potential extremes, which their design will need to function in. The policy does not specify the exact data sources to refer to as these are regularly updated, although it is envisioned that the future Technical Advice Note can help refer applicants to the most up-to-date sources.

Criteria b) to e) then focus on particular elements of climate change resilience, such as overheating risk, flood risk, and water resources. It was considered to be too inflexible to specify every particular design measure which should be used, and that this would not allow the policy to be future-proofed to emerging technologies in future, however, some examples are given about the types of measures that might be suitable where possible. Again, a Technical Advice Note, would have a particularly useful role here in providing guidance and offering more site-specific advice/suggestions for how the overarching framework of requirements in the policy could be met.

As the supporting text sets out, where applicants are providing design features or preparing supporting evidence to satisfy other policy requirements which would also help address these resilience requirements, they are welcome to cross refer to this work to reduce repetition. To be in compliance with the policy though, they will be expected to set out how those other aspects of the application address existing or future climate risk.

From previous discussions at the Stage 1 hearings, we have given criterion d) more consideration and propose the following mods to help improve clarity/effectiveness so that it more closely follows criteria b) and c):

d) Measures to ensure water ~~is used prudently and that water~~ is conserved, such as grey water recycling, rainwater harvesting, water saving fittings, and smart metering, including that dwellings meet the tighter Building Regulations water consumption limit~~s~~ (in line with requirements of Policy R5);

Similarly, with criterion e) which is about ensuring the design of any supporting infrastructure is tailored to future extremes (e.g. road surfacing materials that can withstand heatwaves;

electrical infrastructure is safeguarded from flood waters etc.), we propose some additional modifications to improve effectiveness and clarity for applicants:

e) Supporting infrastructure, such as roads/pavements, services, utilities, ~~which~~ is designed to function in extreme weather conditions, for example, using engineering systems and materials to withstand extreme heat, or flood inundation; considering servicing and/or repair during, or after emergencies; incorporating redundancy measures where necessary.

Notwithstanding the proposed modifications as set out above, the City Council considers that Policy G9 is sufficiently clear and effective to readers of the Local Plan. Whilst there may be some overlap with other considerations across the Plan's policies, the approach ensures that climate risk is considered comprehensively across the design process and through the lens of current and future climate. Bringing these issues together into one comprehensive policy ensures applicants and decision makers give this important topic the necessary attention within applications enabling applicants to draw upon other parts of their submission where appropriate to avoid duplication or additional work. The approach helps to ensure that new development maximises opportunities to build in resilience to future climate change, in line with expectations set out in national policy and the objectives of the Local Plan.