CHAPTER FIVE

A CITY THAT UTILISES ITS RESOURCES WITH CARE, PROTECTS THE AIR, WATER AND SOIL AND AIMS FOR NET ZERO CARBON

INTRODUCTION

This chapter addresses additional elements of environmental protection. The first part of the chapter sets out policies which seek to ensure new development does not further exacerbate climate change through additional carbon dioxide emissions – sometimes referred to as climate change mitigation. The second part then deals with protection of various natural resources and ensuring that the development process mitigates its impact on the wider environment.

AIMING FOR NET ZERO CARBON EMISSIONS

The first three policies of this chapter address different dimensions of carbon reduction in the design process, which are important for mitigating our impacts on climate change. The Climate Change Act requires that the UK achieves net zero carbon emissions by the year 2050 and Oxford has set itself a local target of being a net zero carbon by 2040. Oxford's 2040 Net Zero Action Plan identifies that the built environment is the main source of emissions in the city (primarily the reliance on fossil fuels for heating of buildings), followed by transport.

NET ZERO CARBON BUILDINGS IN OPERATION

Policy context

- The principles of the energy hierarchy will help with ensuring that buildings are net zero carbon in operation and as energy efficient as possible. The hierarchy, as set out in Figure 5.1, prioritises energy saving measures in the first instance, then ensuring that any energy demanding systems utilised in the building are as efficient as possible, and

finally, meeting energy needs through renewable sources (a key element of being net zero carbon in operation).

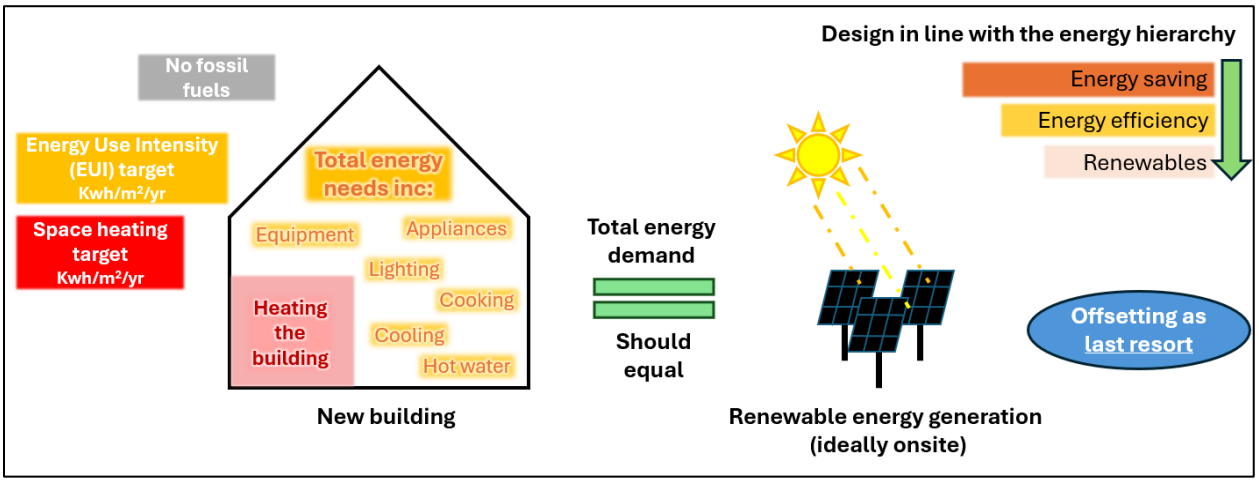

Figure 5.1: A net zero carbon building in operation will match energy needs through sufficient renewable energy generation.

- The energy saving step in the hierarchy favours a fabric-first approach, i.e. maximising the performance of the physical components that make up the 'fabric' of a building (e.g. by being well insulated). This has additional benefits further down the hierarchy, such as by reducing energy demand for heating/cooling and, in turn, the renewable energy generation needed to support the building's operation.
- Net zero carbon and energy efficient buildings have additional benefits for the city and its residents, including reducing energy bills costs (helping with resilience to fuel poverty), supporting health and wellbeing of occupants, and reducing strains on the energy grid which is under increasing pressure as we transition away from fossil fuels.

Policy implementation

- Each building is likely to require a different mix of design solutions for energy efficiency. Some land uses and development typologies will inevitably struggle to achieve net zero carbon in operation through onsite solutions alone.
- The policy sets out performance standards for space heating, and overall energy use, which should not be exceeded. The targets are expressed as an Energy Use Intensity (EUI) figure, which is calculated by combining energy demands from all sources, then dividing by the gross internal floor area (m2). Total energy demand should be matched through new renewable energy generation, ideally onsite, although these could be installed elsewhere in the city where sites are available.

- All energy calculations will need to be undertaken using an approved methodology. At the current time, the most appropriate methodology is considered to be the CIBSE TM54 methodology and the Energy and Carbon Technical Advice Note (TAN) expands on this with additional guidance. Use of an alternative methodology should be agreed with the City Council in advance.
- Certain non-residential uses with exceptionally high operational energy demands, including R&D/labs/hospitals can seek a higher Energy Use Intensity performance target. This will need to be justified through the Energy and Carbon Statement, including by setting out the measures that have been taken to reduce energy demand as much as possible, and the application will need to ensure compliance with all other elements of the policy.
- The policy is not prescriptive in terms of technology choices. For renewable energy generation, Oxford's constrained setting means that often solar mounted PV arrays will be particularly well suited. For heating, air source heat pumps can be effective, equally connecting into communal or district heating systems can also provide sustainable solutions, particularly where this harnesses waste heat.
- There may be circumstances where certain requirements may not be technically feasible 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.
- Specific provisions are made in the policy for householder and change of use applications.

POLICY R1: NET ZERO BUILDINGS IN OPERATION

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

1. **Developments have been designed in accordance with the energy hierarchy. Applications should demonstrate how design has methodically followed the steps in the hierarchy, firstly through reducing energy use; using energy efficiently; and then, meeting all energy needs through renewables sources, ideally generated onsite, or else offsetting as a last resort.**

2. **A total Energy Use Intensity (EUI) figure for the development has been provided, calculated using an approved methodology as set out in supporting text.**

Developments will not be permitted where they exceed the following Energy Use Intensity targets (unless demonstrated to be technically unfeasible):

- **Residential: 45 kwh/m^2/yr**
- **Non-residential: 70 kwh/m^2/yr**
- **For non-residential uses with exceptionally high energy demands, including R&D/labs/hospitals, a higher EUI target will be accepted where it can be robustly justified, including the measures taken to limit this.**

3. **Space heating demand is no more than 20 kwh/m^2/yr. Emerging best practice suggests 15kwh/m^2/yr will be achievable in many instances and achieving this tighter limit is encouraged.**

4. **No fossil fuels are being directly utilised in the operation of the development (i.e. no gas used for heating and cooking).**

5. **All energy needs (matching the development's total EUI figure) will be met through onsite renewable energy generating technologies in the first instance, accompanied by energy storage where possible. Where the total energy need cannot be met through onsite renewables, applicants should seek to maximise available capacity onsite, before seeking to meet the remaining energy balance through installation of sufficient additional renewable generation at a location offsite. In these circumstances, it will need to be demonstrated in the Energy and Carbon Statement that offsite provision has been fully secured and will be in operation upon completion of the development.**

   As a last resort, where the above steps have been fully explored and net zero carbon still cannot be fully delivered, offsetting may be accepted to mitigate any remaining energy demand that cannot be sourced renewably either onsite or through an identified offsite location. The City Council will accept payment into its offsetting fund to fully offset this remaining energy demand, and this will be secured through an appropriate legal agreement/S106.

6. **All new development must include information that specifies the approach to metering that will be adopted as well as proposed monitoring of the performance of the development to be undertaken post-completion (to ensure performance is in line with design specifications).**

Householder applications are only expected to demonstrate accordance with criteria 1. 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 1 and 4, 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 1-3 unless they would result in the creation of a self-contained dwelling or non-residential unit, in which case all criteria apply.

The development of low carbon energy centres and heat networks of varying scales will be supported where these can offer more sustainable heating choices and are in keeping with other policies in the Local Plan. Where development comes forward in areas with access to a

heat network, now or in the future, connection into the network should be considered as part of the design process, particularly if this offers more sustainable means of heating/powering the building.

The City Council will expect that, having worked through requirements 1-6, Energy and Carbon Statements demonstrate compliance with the above criteria; however, a case for anything short of full compliance will be expected to be clearly justified as follows:

a) Full details of where a criterion cannot be met will be provided and justified within the Energy and Carbon Statement with explanation of the reasonable attempts to meet it provided; and
b) clarification that all other criteria are met or exceeded; and
c) the proposal is overall net zero carbon in operation (meaning no reliance on fossil fuels and including use of offsetting only as a last resort).

EMBODIED CARBON IN CONSTRUCTION

Policy context

- Embodied carbon includes both the upfront carbon dioxide emitted during the construction process, as well as carbon dioxide emitted throughout the various life stages of a building (Figure 5.2).
- Carbon dioxide can be emitted as a consequence of various design choices and construction practices, but it can also be locked away at greater levels than the amounts released during the manufacturing process for certain materials. Exemplary design may actually be able to demonstrate a negative carbon balance (i.e. offsetting more carbon dioxide than the development is producing).
- Following the principles of this policy will also be beneficial in aligning with the concept of the circular economy, such as reducing waste and promoting re-use of materials wherever possible, helping conserve and use resources prudently.

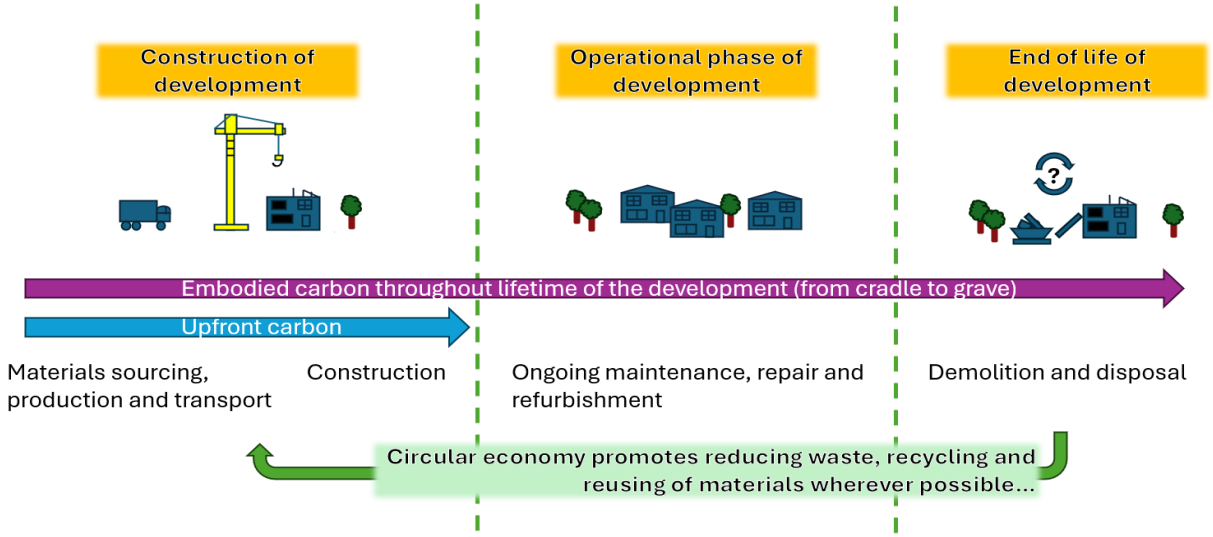

Figure 5.2: Embodied carbon at each phase of a development's lifecycle.

Policy implementation

- The focus of this policy is predominantly on the 'upfront' carbon emissions associated with construction.
- All applications will need to demonstrate how the proposed design and construction has responded to the principles in criteria a-e. This should include a sufficient level of detail that is proportionate to the size and scale of the development, including a rationale for where design choices divert from any of the principles.
- Whilst the policy does not mandate retention of existing buildings, criterion a seeks to ensure that applicants demonstrate that they have considered whether it is feasible for retention and re-use of buildings on a site, before resorting to demolition. Replacing buildings may be justified where for example:
    - a building is no longer fit for its intended purpose or the needs of users;
    - age/construction of the building means it is inefficient in terms of energy use;
    - a new building will be of more benefit to achieving wider place-making.
- Larger developments will need to be accompanied by Whole Life Cycle Carbon Assessment (WLCCA). Other types of application that fall below the policy threshold for WLCCA can submit an assessment where this would support their approaches in responding to criteria a-e of the policy, although this is not mandatory. Applicants should pay particular attention to upfront carbon values associated with the construction phase. It is acknowledged carbon associated with latter stages of the building's life will be subject to increasing uncertainty.
- Where reductions in embodied carbon achieved through the design process need to be demonstrated, these could be framed around the high-level principles in criteria a-e.

- The Energy and Carbon Technical Advice Note will set out best practice embodied carbon targets that should be strived for, as well as more general advice on interpreting each of the principles set out in the policy, and undertaking the WLCCA process where relevant.

POLICY R2: EMBODIED CARBON IN CONSTRUCTION

All developments are expected to demonstrate consideration of embodied carbon for the lifetime of the development, particularly the upfront carbon in the construction process, and take actions to limit this as much as possible through careful design choices. Planning permission will be granted for proposals that demonstrate through their Energy and Carbon Statement that the following principles are embedded proportionately in design choices:

a) Re-use of any existing buildings on a site has been explored and robustly demonstrated to be unfeasible before resorting to demolition.

b) Waste generation has been minimised and re-use and recycling of materials has been maximised in the construction process, including using any demolition materials.

c) The selection of construction materials has been informed by the carbon footprint associated with their sourcing and production (carbon footprint sought to be reduced wherever possible); use of materials that sequester more carbon than is produced in making them is prioritised where opportunities arise.

d) The ways that materials are transported to site and processed during construction have been chosen to minimise the associated carbon emissions wherever possible.

e) Design choices would allow buildings to be easily maintained, adapted and repurposed at the end of use/life.

Proposals for large scale new-build development (developments of 100 or more dwellings, or 10,000m^2 or more non-residential floorspace) will also need to be accompanied by details within their Energy and Carbon Statement that provide the following:

f) a measurement of total embodied carbon associated with the development (including upfront carbon associated with selection of materials). A recognised methodology should be followed to determine these quantities including submission of Whole Life Cycle Carbon Assessment. The City Council's recognised methodologies are set out in the Energy and Carbon Technical Advice Note.

g) details of actions taken to reduce this embodied carbon as much as possible, particularly the upfront carbon associated with the construction stages, and the specific quantitative reductions that have been secured through design process.

Where any future updates to Building Regulations (or other national policy) make embodied carbon requirements at a national level, the Energy and Carbon Statement should instead

demonstrate how embodied carbon is being addressed in the context of that national legislation.

RETRO-FITTING EXISTING BUILDINGS, INCLUDING HERITAGE ASSETS

Policy context

- There is a significant retro-fit challenge facing the city if we are to reach net zero targets, reduce exposure to fuel poverty, and improve energy security. Various interventions will be needed including installation of technologies such as heat pumps, electric vehicle charging and micro-renewables.
- Retrofitting traditional and historic buildings can be carried out sensitively and successfully, whilst preserving historic character, and the City Council will support this wherever possible where interventions have clearly been designed with appropriate consideration of these additional factors:
    - Such buildings were typically constructed to rely upon natural processes such as passive ventilation and free movement of moisture to help to keep internal temperatures stable and avoid build up of damp and mould. Retro-fit interventions that might be suitable for modern buildings can be inappropriate or 'maladaptive' for these assets resulting in harm not only for the structure but also for the health of occupants inside.
    - Designated heritage assets are afforded statutory protection through the Listed Building and Conservation Area Act and also have great weight automatically assigned through the National Planning Policy Framework to preserving their significance.

Policy implementation

- On most buildings within the city, applications which propose retrofitting measures designed to secure demonstrable energy efficiency and/or climate adaptation improvements will be approved, unless other policy/material considerations would make them unacceptable.
- For traditional buildings, including heritage assets however, this presumption in favour does not automatically apply, although the City Council also supports retro-fit projects that deliver these demonstrable benefits. Instead, additional considerations need to be factored into the design process and demonstrated through the application.

- The Council will seek to ensure that applications have been informed by a whole building approach. This means that any special qualities or characteristics for which a heritage asset might have been designated must be taken into account. The way the building has been constructed and how it currently performs also need to be fully understood, in liaison with relevant professionals where necessary.
- Measures that seek to deliver carbon reduction through energy efficiency or provide adaptation to changing climate will be considered as a public benefit, however, this will not automatically override any harm to a designated asset. The City Council will need to consider the level of harm to the significance of the asset and make a determination as to whether or not this is outweighed by that public benefit where harm does occur, in line with national policy and other relevant policies of the Local Plan.

POLICY R3: RETRO-FITTING EXISTING BUILDINGS

The City Council will support retrofit measures to existing buildings where they secure energy efficiency improvements or adaptation to changing climate. The expectation is that the interventions are selected in accordance with the steps of the energy hierarchy (reduce energy use, use energy efficiently, source energy renewably) as set out in Policy R1.

A whole building approach should be taken to the retrofitting of traditional buildings, including heritage assets, whereby applications will need to demonstrate how the following principles have been embedded in the design rationale:

a) choices on interventions have been informed by a whole building approach which includes methodical assessment of the building's heritage significance, its current performance in terms of energy efficiency and climate risk, its use (now and in future), its context, and the selection of suitable materials;
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;
c) professional advice has been sought from historic environment and energy/climate experts to inform proposals where necessary/appropriate;
d) all required consents have been secured, or are in the process of being secured, such as Listed Building Consent or consent for works affecting TPOs.

Measures that seek to deliver carbon reduction through energy efficiency or provide adaptation to changing climate will be considered as a public benefit in the balance against harm, although this will not automatically override any harm to an asset.

NATURAL RESOURCES

There are a wide range of natural resources which need to be considered in the development process. Natural resources such as the soil, air, and water are all

important to health and wellbeing but also to the sustainable functioning of the wider natural environment that makes Oxford so special.

AIR QUALITY ASSESSMENTS AND STANDARDS

Policy context

- Air pollution is an ongoing health challenge which arises from a variety of sources. No amount of air pollution is safe, with pollutants such as Nitrogen Dioxide (NO_2) and particulate matter (PM2.5 and PM10) contributing to a wide variety of health impacts including respiratory and cardiovascular disease. Whilst the impacts of air pollution can affect anyone, they are particularly harmful for some more sensitive groups including children, the elderly, and those with pre-existing health conditions.
- The whole of the city has been declared an Air Quality Management Area (AQMA) for NO2 and the City Council has an Air Quality Action Plan (AQAP) which sets out a range of measures that will be required to improve air quality across Oxford including a more rigorous standard for Nitrogen Dioxide (NO2) compared with national legal limits.
- The role of this policy is to ensure that any negative impacts on air quality from new development (either during construction or once in operation) are mitigated. It also seeks to ensure that exposure to poor air quality is minimised or reduced through careful design.

Policy implementation

- All proposals need to consider their potential impacts upon air quality, as well as the impacts from existing air quality on the users of the development from the outset to avoid the need for future site mitigation. This should consider all potential air pollutants including Nitrogen Dioxide (NO_2) and particulate matter, and may necessitate various design choices to respond to and mitigate potential air quality impacts in the locally.
- Site layout should be designed in such a way as to protect human exposure to high pollution, which could involve setting the development back from key sources of pollutants; placing habitable rooms away from, and avoiding installation of balconies near to, highest pollution areas; as well as use of buffering measures like planting.
- Particular care and attention should be paid to more sensitive uses where these are present or proposed, meaning those expected to host more sensitive receptors such as schools, nurseries, care homes and healthcare settings, which need to be located away from areas of poor air quality.
- The conclusions of any Air Quality Assessment (AQA) - which should accompany all major applications - must demonstrate that the proposed development does not

conflict with or undermine any of the objectives of any of the city's current or future Air Quality Action Plans or Air Quality Strategies.

- Further guidance on meeting the requirements of the policy is set out in the City Council's Air Quality Planning Application Guidance Note, as well as the air quality webpage and the most up to date Institute of Air Quality Management (IAQM) guidelines which applicants are expected to follow.

POLICY R4: AIR QUALITY ASSESSMENTS AND STANDARDS

Planning permission will only be granted where the impact of new development on air quality is mitigated, and where exposure to air pollution is minimised or reduced, as far as is reasonably practicable as per the criteria set out in this policy.

The design and layout of new development (during construction and in operation) needs to consider the potential impacts upon air quality for current and new occupants. Sensitive uses such as schools, nurseries, care homes and healthcare settings, should be located away from areas of poor air quality as far as reasonably practical through careful site layout designed to protect human exposure to high pollution levels.

Air Quality Assessments (AQA) will be required for all major developments. Planning permission will only be granted for major developments where the AQA meets the following criteria:

a) it provides an assessment of the impacts of all the sources of air pollution generated during the development's operational and construction phases, including but not limited to transport, heating, dust generated from demolition/construction/earthworks activities; and
b) it has considered the cumulative impacts from other sources of air pollution in the local area where relevant; and
c) it clearly identifies any potential negative air quality impacts, including where these would compromise achievement of the local annual mean air quality target for Nitrogen Dioxide (NO_2), as set out in the city's Air Quality Action Plan (AQAP); and
d) it sets out appropriate site-specific mitigation measures to address negative impacts identified, following the principle of redesign – mitigate – offset.

Planning applications that involve significant demolition, construction or earthworks will also be required to submit a dust assessment as part of the AQA, to assess the potential impacts and health risks of dust emissions from those activities. Any appropriate site-specific dust mitigation measures will be secured as part of the Construction Management Plan (CMP) as required by Policy C6.

All applications are expected to follow the guidance set out in the latest City Council Air Quality Planning Application Guidance Note.

WATER RESOURCES AND QUALITY

Policy context

- The Thames River Basin Management Plan describes the current state and pressures affecting the waterbodies in the city, as well as the measures needed to achieve the requirements of the Water Framework Directive (transposed into the Water Environment Regulations). The City Council is committed to ensuring that new development will not lead to the deterioration of our water environment or impact on the ability to meet the objectives set out for our waterbodies.
- The Environment Agency has identified Oxford to be in a "serious water stressed" area, meaning that household demand for water is a high proportion of the effective rainfall which is available to meet that demand either now or in the future. There are ongoing pressures from climate change, bringing about more periods of hot weather and droughts, and rising demand from a growing population.
- Water quality issues are ongoing in the city, with the majority of watercourses either classified as moderate or poor in ecological status and ongoing quality concerns particularly for Northfield Brook and the River Thames. These issues arise for various reasons including pollution from a range of sources like agriculture, sewage discharge and surface run-off.
- Wastewater infrastructure in the city faces ongoing challenges as the city develops. Upgrades to the Wastewater Treatment Works which services Oxford are underway to address current capacity problems and meet future treatment needs, and the City Council is committed to continuing to engage with the EA and Thames Water to ensure future growth is appropriately planned for and delivered.

Policy implementation

- Applications must be accompanied by sufficient information to demonstrate that the potential for impacts on the water environment (both on water resources and water quality), have been considered and addressed.
- The policy requires that applicants set out how they will limit water use as much as possible and that new residential development as a minimum aligns with the tighter Building Regulations target for water consumption. The requirement will be subject to a planning condition to ensure that the water efficiency standards are met. Applications should also explore other ways to support water conservation, including:
    - grey water recycling (reuse of wastewater from showers, baths and washbasins);
    - rainwater harvesting (collection and storage of rainfall for reuse);
    - landscaping features which are drought tolerant and do not require regular watering during dry periods.

    - smart metering and intelligent building systems to help occupants monitor and manage water use.
- Proposals should also demonstrate consideration and mitigation of impacts on water quality such as accidental release of sediment/pollutants into waterways or drainage networks, infiltration of pollutants into groundwater. See also **Policy R8**.
- The risk of water quality impacts will be particularly relevant where proposals are located in close proximity to waterbodies, or close to ecological sites which are particularly sensitive to surface water and groundwater changes. See also **Policy G6.**
- New development may necessitate local network upgrades to facilitate water supply or wastewater infrastructure and the delivery of upgrades can take time. Developers are encouraged to engage with the Statutory Water Undertaker (Thames Water) at the earliest opportunity to establish the requirements for water supply and sewage/wastewater treatment network infrastructure both on and off site and ensure that these are planned for in due course. See also **Policy S3**.

POLICY R5: WATER RESOURCES AND QUALITY

Planning permission will only be granted for new development that utilises water supplies prudently and protects water quality. Proposals for new development, excluding householder applications, extensions, conversions and change of use (unless these would result in creation of a new dwelling) should include a water awareness statement to demonstrate how the following policy requirements have been met.

A) Water Supply/Efficiency

All new dwellings (including conversions, reversions, and change of use) should achieve an estimated water consumption of no more than 110 litres per person per day using the 'Fittings Approach' as set out in Building Regulations part G2 (proposals are encouraged to go further than this).

All non-residential development should demonstrate what measures have been incorporated to reduce water use.

All applications should demonstrate what other measures have been incorporated into the design to conserve water use including rain/grey water harvesting/reuse.

B) Water Quality and Wastewater

Proposals should demonstrate that development will not have an adverse impact on the quality of controlled water bodies and groundwater, such as by:

- **managing run-off and infiltration through utilising SUDs (in line with the requirements of Policy G8);**
- **putting measures in place to manage and contain sediment/pollutants particularly where in proximity to open watercourses and designated bathing waters.**

C) Foul and surface water drainage

Developers should separate foul and surface water sewers on all new development. Where opportunities are present during works on existing development, applicants are encouraged to separate existing combined foul and surface water sewer arrangements.

No surface water from new development will be discharged to the public foul or combined sewer system: a Foul and Surface Water Drainage Strategy must be provided for all new build residential development of 100 dwellings or more; non-residential development of 7,200m2 or more; or student accommodation of 250 study bedrooms or more, to demonstrate how foul water and surface water drainage will be managed to reduce run off and improve water quality in line with national policy.

SOIL QUALITY

Policy context

- There are multifunctional benefits of soils for the wider environment, they can store surface water, preserve water quality, support biodiversity and food production and store carbon. The natural accumulation of soil can be a slow process so soils should be considered to be a finite, non-renewable resource which needs to be protected and managed sustainably.
- Some types of soil, such as peat, have particularly valuable benefits, they are even better at locking up carbon and can act as archaeological reserves. They also take much longer to accumulate and as such are much more difficult to replace.
- Peat deposits have previously been identified at Dunstan Park, around the Churchill Hospital and Lye Valley, as well as along Littlemore Brook in the south of the city, although there could be additional deposits nearby.
- The development process can impact upon and deteriorate the quality of soils in various ways, such as through removal, compaction, sealing over with artificial surfaces and pollution.

Policy implementation

- The policy will apply to a variety of proposals where impacts on soils could arise, particularly those that involve undeveloped areas of land and greenfield sites.
- Measures to consider will vary based on the context of the site and proposal, but could include:
    - tailoring construction processes to avoid loss, erosion, or compacting of soils;
    - ensuring beneficial soil reuse and sustainable soil management;

    - minimising risks from release of contaminants (see also **Policy R8**);
    - locating development away from the highest quality soils;
    - minimising artificial surface cover that would lock away the soils.
- To allow the City Council to make an informed decision as to the impact of the development, proposals for major development on undeveloped land upon, or within 200m of, an identified peat reserve in the city will need to submit an assessment that details soil conditions and any existing peat reserve affected by the scheme alongside the application.
- Where there is potential for harm or loss of peat, proposals could seek to avoid impacts through careful design choices informed by the assessment, such as through development being located away from peat reserves where the site allows. Reliance on mitigation through offsetting the impact of lost peat alone, such as by providing carbon storage elsewhere, is unlikely to make a development acceptable as it is very difficult to achieve the same benefit for many years.

POLICY R6: SOIL QUALITY

Planning applications 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. The Design and Access Statement and associated landscape plans should include details identifying where relevant:

a) How impact on soils during the construction process has been minimised through avoiding: soil loss, compaction, pollution and reduction in the quality of soil; and
b) How development has been located in a way that avoids highest quality soils on sites where possible; and
c) How beneficial soil reuse and sustainable soil management has been implemented where possible; and
d) How artificial surface cover that seals off soils has been minimised.

Planning permission will not be granted for proposals that would remove or dewater 10m³ or more of peat.

Proposals for new major developments on undeveloped land upon, or within 200m of, known peat reserves should submit an assessment, informed by borehole sampling, to allow the City Council to determine any potential impacts on reserves. The assessment should include details of the following:

I) The estimated carbon footprint of the peat impacted by development.
II) Its palaeo-archaeological interest.
III) Its function in the surrounding habitats.
IV) Its hydrological condition and stability.

LAND CONTAMINATION

Policy context

- Oxford's extensive history of development means that there are areas of the city which are likely to be affected by poor soil quality and the presence of contaminants that could be harmful for human health, for example closed landfill sites and former industrial sites.
- However, the development process can be an important mechanism for bringing land back into beneficial use through sustainable remediation processes maximising efficient use of land.
- The NPPF sets out that after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990.

Policy implementation

- In instances where land contamination could be an issue of relevance, a report documenting the investigations that have been carried out into the nature, extent and possible impacts arising from the contamination will need to be provided. It should detail any mitigation measures necessary to respond to what has been found.
- In assessing whether land contamination is an issue that needs to be taken into account, the City Council will have regard to a range of information sources including its database of potentially contaminated sites, information provided by developers and third parties, and the advice from the City Council's Land Quality officer.
- Ultimately, where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner. Where applicable, site investigations should be carried out in line with Land Contamination Risk Management (LCRM) guidance, taking a staged risk-based approach.

POLICY R7: LAND CONTAMINATION

Planning applications where proposals could be affected by contamination or where contamination may present a risk to the surrounding environment, must be accompanied by a report which:

a) details the Desktop Study and Preliminary Risk Assessment (PRA); and

b) details the investigations (including, where relevant, site investigation data and results, conceptual site model, risk assessment, and remedial options) that have been carried out to assess the nature and extent of contamination and the possible impacts

it may have on the development and its future users, biodiversity, the built environment, land and controlled waters; and

c) sets out detailed remediation measures to allow the development to go ahead safely and without adverse effect, including, as appropriate:

I) removing the contamination;

II) treating the contamination;

III) protecting and/or separating the development from the effects of the contamination;

IV) validation of any mitigation and remedial measures.

Where site investigation and remediation measures are needed, these will be required as a condition of any planning permission.

AMENITY IMPACTS OF DEVELOPMENT

Policy context

- New development can create environmental impacts, particularly during the construction phase, as well as once in operation. Potential amenity and environmental health impacts need to be fully assessed during the planning application process to ensure that any potential nuisance resulting from the development can be properly mitigated to protect the amenity of residents, employees and the wider environment.
- The amenity of occupiers of new developments can also be impacted by the operation of existing uses nearby including uses like social venues, industrial processes, roads and rail where not appropriately considered in the design process. The applicant seeking to introduce a new land use is responsible for managing the impact of that change (the Agent of Change Principle).
- There may be other amenity impacts arising from existing uses nearby, such as sources of odour (e.g. in proximity to wastewater treatment works) or artificial lighting, which may need to be assessed to inform the design of new development to preserve the amenity of new occupiers without imposing restrictions on existing uses.

Policy implementation

- The policy sets out a number of factors which should be considered where they could have a direct impact on amenity and health, though as every development is different, some will be of more relevance and others may not be applicable.
- The management of noise (either arising from the new development or from existing uses nearby) should be an integral part of development proposals. In cases where noise sensitive development is proposed near to an existing noise generating use (e.g. a music venue or pub) the City Council will consider whether the introduction of the

sensitive use might threaten the continued operation of the existing premises, which might mean the development is inappropriate in that location.

- Odour impacts on future occupiers of a development will be a particular consideration for applications that propose development in proximity to the Sewage Treatment Works. The policy sets out requirements for consultation with the Statutory Undertaker (Thames Water) and technical assessment of odour impacts which will need to show that these can be avoided or mitigated.
- There are links with other policies in the Local Plan including transport impacts (**Policy C6**); air quality (**Policy R4**) and land quality (**Policy R7**).
- Measures to mitigate the impacts of noise and vibration associated with demolition and construction will be secured by legal agreement or condition through construction management plans which form part of the transport assessment.

POLICY R8: AMENITY IMPACTS OF DEVELOPMENT

Planning permission will only be granted for development that:

a) ensures that the amenity of communities, occupiers, neighbours and the natural environment is protected; and
b) does not have unacceptable transport impacts affecting communities, occupiers, neighbours and the existing transport network; and
c) provides mitigation measures where necessary.

The factors the City Council will consider in determining compliance with the above elements of this policy will also include where relevant:

d) visual privacy, outlook;
e) sunlight, daylight, overshadowing and mitigating glare from solar panels and windows where applicable;
f) artificial lighting levels;
g) transport impacts;
h) impacts of the construction phase including the assessment of these impacts within the Construction Management Plan (CMP) (refer to Policy C6);
i) odour, fumes and dust;
j) microclimate e.g. wind, overheating
k) contaminated land;
l) impact upon waste and wastewater infrastructure;
m) noise and vibration; and
n) preserving surrounding water quality.

Planning permission will not be granted for development sensitive to noise in locations which experience high levels of noise, unless it can be demonstrated through a noise assessment, that appropriate attenuation measures will be provided to ensure an acceptable level of amenity for end users and to prevent harm to the continued operation of existing uses.

Proposals within 800m of a sewage treatment works or 20m of a sewage pumping station should be informed by liaison with the Statutory Undertaker (Thames Water). Planning permission will not be granted for sensitive development close to the Sewage Treatment Works, unless it is accompanied by a technical assessment, prepared in consultation with Thames Water, that shows there will be no adverse amenity impact on future occupiers of the proposed development or that sufficient mitigations can be incorporated to ensure that any potential for adverse impact will be avoided.

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