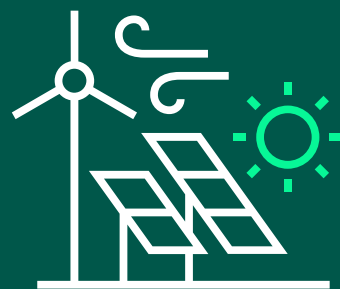


CARBON NEUTRALITY AND DESIGNING FOR LOW CARBON INFRASTRUCTURE



**YOUR PLACE
YOUR PLAN.**
Winchester District Local Plan

BACKGROUND

4.1

Mitigating and adapting to climate change and designing for low carbon infrastructure are vitally important and defining issues for the council's new Local Plan. This is because the Local Plan has a key role in assisting the council with meeting its net zero target by 2030.

4.2

The city council has declared a climate emergency in order to address the fact that our daily activities and lifestyles are not sustainable as the way that we are currently living is releasing greenhouse gases (predominantly carbon dioxide) into the atmosphere. This is resulting in changes to our seasons, increasing frequency of heat waves, droughts, and more extreme weather conditions all of which cause changes to our landscapes and ecosystems. The use of our finite resources combined with the widespread and potentially devastating impacts of climate change places a responsibility on all of us to reassess how we plan, design, construct and occupy our homes and the places that we work. The Local Plan also has a key role in moving residents, businesses and visitors to our district away from using fossil fuels and instead promoting more sustainable modes of transport.

4.3

Whilst this section of the Local Plan includes a number of policies to address carbon neutrality and low carbon infrastructure, climate change crosses over with a number of other policies/topics which is why it is important that the Plan is read as a whole.



CLIMATE CHANGE ACT AND THE COUNCIL'S CLIMATE EMERGENCY

4.4

The council as a Local Planning Authority has a legal duty to help meet the requirements of the Climate Change Act 2008 by ensuring the Local Plan includes policies designed to mitigate and adapt to climate change.

4.5

According to the council's Carbon Neutrality Action Plan (2020 -2030) which has been prepared in direct response to the council's declared emergency <https://www.winchester.gov.uk/climate-change-and-energy> the predicted consequence of climate change is that there will be increased extreme weather events, and in many areas this is already being seen:

- Flooding – damage to property, disruption to business, health and wellbeing of displaced residents;
- Heat and cold – health risk for vulnerable people, pressure on emergency and health services;
- Drought – pressure on river system health, depleted aquifer/reservoir volumes, negative impact upon agriculture, fire risk; and
- Impact on ecosystems – in terms of altering the water cycle, habitats, animal behaviour and the timing of natural processes such as flower blooms which can have any impact on terrestrial, freshwater, and marine species who rely on food supplies as part of their migration patterns.



4.1
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4.5

THE ROLE OF THE LOCAL PLAN

4.6

It is important to note that planning does not have control over all of the actions that are needed in order to encourage us to live a more carbon neutral lifestyle. Change will be required across many areas that fall outside matters that spatial planning can influence or control.

4.7

The Local Plan does have a vital role in making a valuable contribution and creating a positive planning framework by requiring a higher quality and healthier environment for all of our residents and visitors. It can be used in a positive way to preserve and enhance the existing ecosystems and the creation of new wildlife habitats (Policy NE5 Biodiversity Net gain).

4.8

In order to meet our net zero target by 2030, the policies that are included in the Local Plan also have an important promotional role in terms of encouraging renewable energy proposals to come forward for development and as well as supporting and encouraging green business opportunities in line with the council's Green Economic Development Strategy. All of this will assist the district moving towards a green economic economy.



PLANNING AND DESIGNING FOR CARBON NEUTRALITY AND ADAPTING FOR CLIMATE CHANGE

4.9

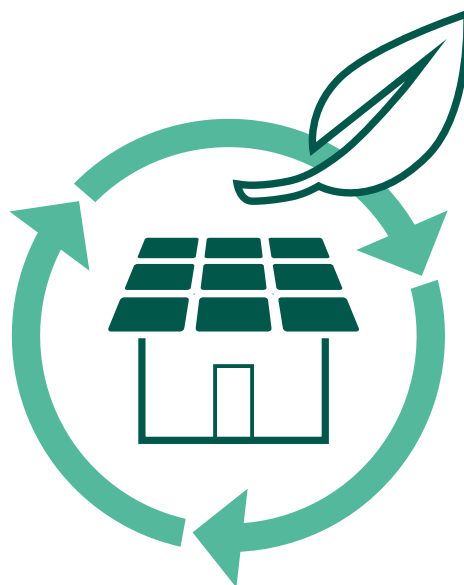
It is vitally important that planning for carbon neutrality and mitigating and adapting for climate change are fully considered as part of development schemes and it can be demonstrated how they have been addressed right at the start and throughout the design process – see Achieving well designed places and living well topic. This is to ensure that development that we are planning for now is fit for purpose in the long term.

4.10

The city council wants carbon neutrality and sustainability issues to be right at the forefront of developers/architects minds by requiring them to demonstrate at the planning application stage how carbon and climate change issues have been fully considered and corresponding measures integrated into the design process. By taking this approach it will help to reduce greenhouse gas emissions, slow down climate change but it can also stimulate investment in new green jobs and businesses where the local environmental impact is acceptable. All of the above will require the support and involvement of local communities.

4.11

It is also equally important that opportunities are explored as part of the design process to maximise the natural processes that can take carbon out of the atmosphere, known as ‘carbon sequestration’. For example, the provision of Green/Blue Infrastructure (Policy NE4) is equally as important as new development needs to be designed in a way to help to mitigate the impacts of high temperatures and overheating (Policy D8), reduce flood risk through use of Sustainable Urban Drainage Schemes (SuDS) (Policy NE6) and increase biodiversity net gain (Policy NE5).



4.6
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4.11

PLANNING AND DESIGNING FOR CARBON NEUTRALITY AND ADAPTING FOR CLIMATE CHANGE

Key issues

- i. The Climate Change Act commits the UK government to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050.
- ii. The council agrees that carbon neutrality is a vitally important issue and is a major urgent priority as it has published its Carbon Neutrality Action Plan 2020- 2030 which sets out how it will deliver against the ambition to be a carbon neutral council by 2024 and district by 2030. Carbon neutrality is an increasingly important issue. It is the council's priority to tackle this and to develop the new Local Plan through lens of the climate emergency in order to ensure that it supports and aligns with the council's Carbon Neutrality Action Plan 2020-2030 which sets out how it will deliver against the ambition to be a carbon neutral council by 2024 and district by 2030.
- iii. All activities and services delivered have a role to play in assisting us with moving towards carbon neutrality and factors which may lead to exacerbate climate change (through more greenhouse gases) should be avoided (e.g. pollution, habitat fragmentation, loss of biodiversity) and the natural environment's resilience to change should be protected.
- iv. The Local Plan is a really important tool that can be used to change the ways that we do things and the way that the district grows and changes in the future as it looks forward to 2039.
- v. The effects of climate change and adaptation are most likely going to be felt by the most vulnerable members of our society.
- vi. The COVID-19 pandemic has highlighted the important role that planning can have in tackling climate change and it is extremely important that we take some of the key lessons learnt from the pandemic to future proof the district against the impacts of climate change.
- vii. The Local Plan has a role to play in terms of reducing the carbon footprint of the district but also ensuring that new development is directed towards areas where it is fully integrated with existing sustainable infrastructure, services and is not designed around car-dependency whilst recognising that it is a large rural district so inevitably not all development supported by our plan will be low carbon, in a sustainable location (some rural based development like agriculture and tourist accommodation for example).
- viii. The Government requires councils to work closely with a range of infrastructure and service providers as part of the development of the Local Plan and is currently required to prepare an Infrastructure Delivery Plan (IDP).
- ix. Under the current planning system the IDP provides a comprehensive understanding of the existing infrastructure and any new infrastructure that will be required to support the proposals that are included in the new Local Plan.

- x. The recognition that infrastructure has both a direct impact on the environment through its footprint, and indirectly through people's use of it e.g. use of roads for vehicles leading to air pollution.
- xi. When new infrastructure is required, it is important that the Local Plan supports proposals for low carbon energy infrastructure which will assist the council moving towards the target of carbon neutrality.
- xii. Ensuring that when infrastructure is needed, the timing and the delivery of infrastructure is aligned with the development allocated by the Local Plan.
- xiii. The Local Plan needs to be clear how it can achieve low carbon energy infrastructure but also how it can support the dramatic change in the way that we will all move around in the future.
- xiv. A key part of the Local Plan is that the cost of the supporting infrastructure, including any policies that would support the council's move towards carbon neutrality, are deliverable and how this can be funded needs to be tested through the Viability Assessment.



Definitions:

Climate change mitigation –

this describes the range of measures that can be taken to reduce the impact of climate change in terms of locating, designing, constructing and occupying new development.

Climate change –

this is about how we need to as part of the planning and design process take into account the effects of climate change in terms of managing the impact of extreme and changing weather conditions and using resources efficiency.

Carbon neutrality –

refers to the idea of achieving net zero greenhouse gas emissions by balancing those emissions so that they are equal (or less than) the emissions that are removed through the planet's natural absorption

Low carbon infrastructure –

these are proposals that generate fewer carbon emissions than using fossil fuels by generating power from solar, wind and other green energy proposals.



Key
Issues

STRATEGIC POLICY

Minimising carbon emissions and ensuring climate change and adaptation issues are embedded in the Local Plan

What are we aiming to achieve



In order to respond to the council's climate emergency declaration, applicants will be required to provide evidence on how carbon neutrality issues have been fully integrated into scheme as part of the design process. This starts at the initial project inception stage in

terms of the site selection, the orientation of buildings on a site, site layout, and the design of the buildings, the type and source of building materials using the fabric first approach and ultimately, how a particular building will be used by the end occupiers.

4.12

The NPPF and the associated PPG indicates that Local Plans should take into account the need for renewable and low carbon energy and heat. Local plans need to include a positive strategy for the delivery of these matters and consider the identification of suitable areas for renewable and low carbon energy sources and supporting infrastructure.

4.13

In order to ensure that the Local Plan supports the aims of the NPPF and the council's climate emergency declaration, the preferred approach is to include a strategic policy that sets out the council's overarching strategy for addressing climate change and adaptation.

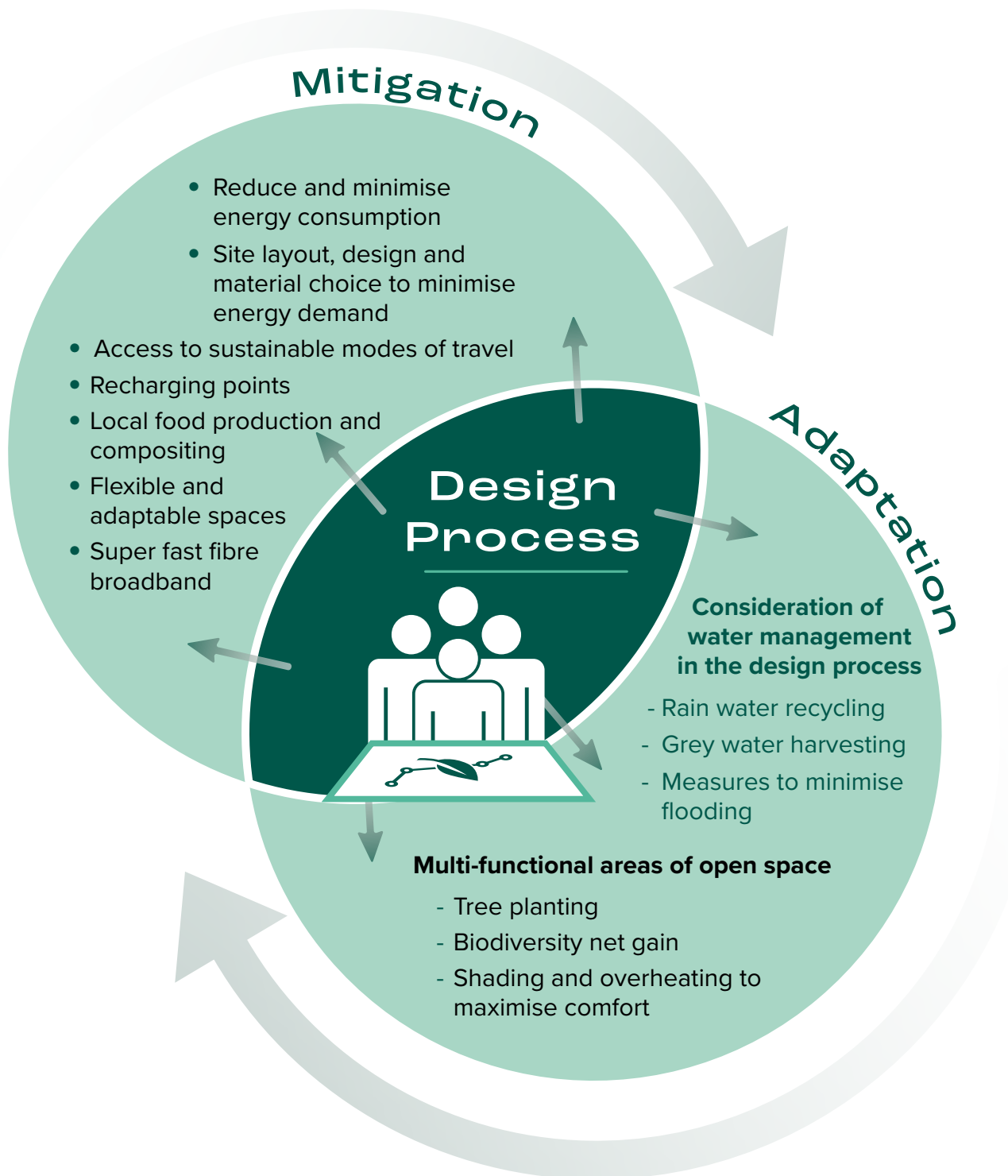
4.14

As technology in this area is rapidly changing, if a development proposal is phased it will be important that the Energy and Carbon Statement is updated to reflect the up to date baseline circumstances and any new or emerging opportunities to address climate change issues that will take place over the local period to 2039.





4.12
-
4.14



This diagram shows how Policy CN1 should be applied

STRATEGIC POLICY

Minimising carbon emissions and ensuring climate change and adaptation issues are embedded in the Local Plan

Strategic Policy CN 1

Mitigating and adapting to climate change

The plan will help to meet the targets in the council's Climate Emergency Declaration and reduce the district's carbon footprint by responding to the changes that are currently occurring to the climate and ensuring that new development is designed in a way that adapts to challenges of climate change in a comprehensive and integrated way by:

Mitigating against climate change

In order to mitigate against climate change, development proposals (excluding household extensions) will need to demonstrate through the design process that:

- i. Low carbon solutions have been incorporated that reduce and minimise energy consumption through the energy hierarchy classification of energy options (Policy CN2) and how carbon emissions have been considered at every stage of the design process;
- ii. Carbon emissions have been considered as part of the identification of sites for development, and it has been demonstrated that as part of the design process, how site layout and the orientation, fabric glazing ratio and the choice of construction materials for the buildings proposed have been designed to minimise energy demand;
- iii. Sustainable travel modes of transport has been fully incorporated into the layout in a way that encourages people to use more sustainable forms of transport such as buses, cycles or walking and reduces car dependency;
- iv. Recharging points for sustainable modes of transport are considered early on in the design process (Policy T3) and they are provided in a conveniently located positions within the development;
- v. Opportunities have been incorporated within residential development for local food production and composting;
- vi. Flexible and adaptable space has been incorporated into the design of residential development that facilitates the ability for people to be able to work from home and to adapt to changing lifestyles; and
- vii. Development (where it involves the creation of new residential development) is connected to super-fast fibre broadband that reduces the need for people to travel and is capable of being connected to SMART technology.

Strategic Policy CN 1 - continued**Mitigating and adapting to climate change**

In order to adapt to climate change, development proposals (excluding household extensions) will need to demonstrate through the design process that:

viii. Water use management and conservation (e.g. rainwater recycling and greywater harvesting) has been fully considered as part of the design process and what measures have been taken to minimise the risk and the impact of flooding and extreme weather conditions through the design of the building and reduce surface water run off through the use of SuDS and Rainwater gardens (Policy NE6); and

ix. The layout has incorporated multi-functional areas of open space, tree planting, biodiversity net gain (Policy NE5) and has addressed the role of shading and overheating of the built and natural environment so as to maximise the comfort and well-being of residents, visitors and wildlife in a changing climate (Policy D9).

Developers will be required to submit an Energy and Carbon Statement, which is proportionate to the nature of application, to demonstrate how the design process has addressed the above requirements.

In the case of a phased development, the Energy and Carbon Statement will need to be updated at each phase to reflect the up to date baseline circumstances and any new or emerging opportunities.

STRATEGIC POLICY

Policy
CN1

The Energy and Carbon Statement should be proportionate to the nature of application

further details and checklist will be available on the council's website.



DEVELOPMENT AND RE-USE OF BUILDINGS

4.15

LETI is a network of over 1000 built environment professionals that are working together to put the UK on the path to a zero carbon future. The voluntary group is made up of developers, engineers, housing associations, architects, planners, academics, sustainability professionals, contractors and facilities managers, with support and input provided by the GLA, Local Authorities and other organisations.

4.16

Recycling has become part of everyday lives and this equally applies to the opportunity that may arise to re-use/refurbish existing buildings on a site to make them more energy efficient rather than just demolishing them. This is on the grounds that existing buildings have embodied carbon within them (carbon dioxide (CO₂) or greenhouse gas emissions associated with the manufacture,

construction and use of a building). If buildings are demolished and new buildings are constructed on a site this will require carbon to build them. It is, however, fully recognised that there may well be good place making reasons as to why buildings cannot be retained/refurbished on a site. This needs to be balanced against the fact that planning permission is not generally required to carry out most demolitions apart from if a building is located in a conservation area or is a listed building (Policy HE14). However, whilst this is the case as the city council has a climate emergency declaration, the Local Plan encourages developers to consider the role of embodied carbon as part of the design process and whether the buildings could be reused/refurbished and the energy performance of them can be improved as part of the design and layout of a development – see Policy D1.



ENERGY HIERARCHY

What are we aiming to achieve



We want applicants to assess through design process the impact that a development will have in terms of energy use and require them to demonstrate

through the planning application process how they have used the energy hierarchy to help inform and develop their design.



4.15

4.18

Policy CN 2

Energy Hierarchy

All development shall accord with the following energy hierarchy (in order of preference):

Minimise energy demand by employing the 'fabric first approach';

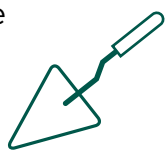
- Maximise energy efficiency;
- Utilise renewable energy;
- Utilise low carbon energy; and
- Utilise other energy sources as a very last resort.

POLICY

4.17

The way in which buildings are designed and constructed all have an impact on carbon emissions. It is therefore vitally important that sustainable energy options are fully assessed as part of the design process.

FABRIC FIRST APPROACH



Reduce energy demand, select performance components

Utilise renewable energy

Source remaining energy from renewable energy or low carbon sources

4.18

Policy CN2 sets out an energy hierarchy which is a classification of energy options, prioritised to focus developers to think about and embed more sustainable energy options right at the start of the design process and is one of core principles of the Local Plan. It is a similar approach to a waste hierarchy where the least favourable option is located at the bottom of a triangle. The development industry often refers to this as a 'fabric first approach'. This means that before considering renewable and/or low carbon energy sources, energy demand must first be reduced by maximising performance of the components which make up the building fabric (i.e. consider the materials and design of the environment and then move down the energy hierarchy). Not only is the 'fabric first' approach the most sustainable and environmentally best approach, but it can also make an important contribution to addressing fuel poverty and improving social equity.

IMPROVING ENERGY EFFICIENCY STANDARDS

What are we aiming to achieve



In order to ensure that ensure development is sustainable and minimises greenhouse gas emissions to meet the Council's climate emergency target of 2030 we want to set out a

positive policy approach on energy efficiency standards that we would require residential and commercial development proposals to meet.

4.19

As well as considering how new development will need to address climate change and adaptation as part of the design process (Policy CN1) it is important that the Local Plan addresses the future environmental impact of new residential

development in terms of the amount of carbon emissions that are associated with the development including specifically CO2 emissions. This is important as CO2 emissions are one of the main greenhouse gases that contribute to global warming.

CHANGES TO THE BUILDING REGULATIONS

4.20

Since the Code for Sustainable Homes was withdrawn by the Government, higher energy efficiency standards for residential buildings have been introduced by making changes to the Building Regulations which are intended to deliver a reduction in carbon emissions, while ensuring the delivery of high-quality homes. New homes in England currently need to be constructed to meet Part L of the Building Regulations which covers the conservation of fuel and power in the building of new homes and establishes the national standard for energy efficiency levels.

FUTURE HOMES STANDARD

4.21

There are further proposed changes to the Building Regulations that are due to be introduced in 2025 under the Future Homes standard. It is anticipated that the Future Homes standard will deliver 75% carbon dioxide emission reductions compared to 2013 Building Regulations. Homes that are built to the 2025 Future Homes standard will not be net-zero carbon.



4.19

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4.21



RAISING THE BAR ON ENERGY STANDARDS

4.22

The Planning and Energy Act 2008 gives Local Planning Authorities the power to set local energy efficiency standards in their Local Plans subject to assessing the cost of these measures through the Local Plan Viability Assessment.

4.23

The Council recognises that improving energy efficiency standards when it comes to conversions and extensions can in some situations be more problematic than a new build. However, in the case of extensions, a bigger home means more space to heat and more lighting which could increase the carbon dioxide (CO₂) emissions. In order to ensure that these proposals also assist with the Council's climate emergency target, as part of the design process, applicants will be expected to demonstrate what opportunities have been explored and taken to improve the energy efficiency and performance of a building especially when this involves a conversion of non-residential premises to a residential use.

4.24

As Local Plans can set energy standards that are higher than Building Regulations, the City Council commissioned a consultant

team led by Elementa to clarify and assess the cost implications associated with meeting net-zero carbon for new residential dwellings. The 'Net Zero Carbon Targets' Report by Elementa, Etude and Currie & Brown assessed the financial costs that are associated with building a residential dwelling to Part L of the current Building Regulations, the Future Homes standard 2025 and the cost of introducing energy efficiency standards that have been established by London Energy Transformational Initiative (LETI).

4.25

The outputs from the LETI Net Zero Carbon report from Elementa, Etude and Currie & Brown has been combined with the cost modelling and analysis that has been undertaken for the Local Plan Viability Assessment. The Local Plan Viability Assessment has taken the information from Elementa to assess the financial impact that any improvements to energy efficiency standards over and above Part L of the Building Regulations would have and analysed the financial implications for other policy requirements in the Local Plan such as the policy on affordable homes.



LETI ENERGY STANDARDS

4.26

LETI have calculated that the average home that is built to the current Building Regulations (Part L) has an energy efficiency of 95kWh/m²/year. Key elements of the LETI next generation energy standard for residential homes is the need for low energy use in new buildings, a low carbon energy supply with no use of fossil fuels for heating, hot water and cooking and opportunities for on-site renewable electricity is maximised. The LETI energy efficiency target for residential dwellings is based on a total energy use of <35 kWh/m²/year and has the major advantage that it is a lot clearer to understand than using a comparison to the notional building in the Future Homes standard.

4.27

Using the LETI energy efficiency standards for residential dwellings in the Local Plan is not only the most effective approach to address climate emergency but it will also assist the district to become net-zero by 2030. It also has the added advantage of reducing the running costs of residential dwellings which is becoming an increasingly important issue for all households especially those people on lower incomes. Designing in energy efficiency measures when a residential dwelling is planned and constructed can increase the lifespan of the property. It can also be significantly cheaper than retrofitting energy efficiency improvement measures after a property has been completed.

4.28

In simple terms, to meet net operational net-zero carbon, the amount of energy required on-site should be balanced by installing on-site renewables to supply the equivalent amount of energy across the course of a year.



4.22

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4.30

ENERGY EFFICIENCY – NON-RESIDENTIAL DEVELOPMENT

4.29

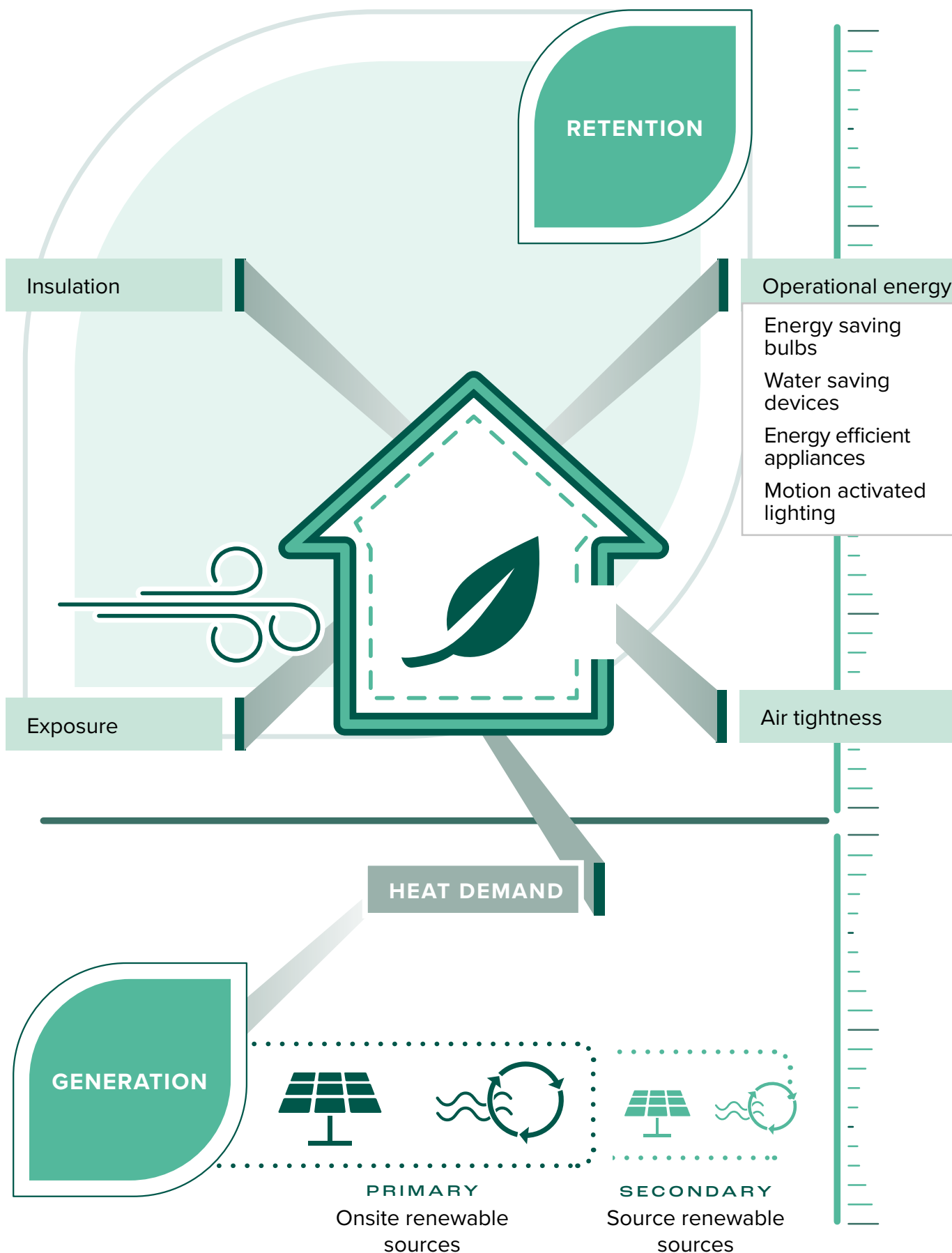
In the case of non-residential development proposals, these proposals will need to be to demonstrate through the design process that have used the energy hierarchy (Policy CN3) and they can meet at least BREEAM¹ certificate Excellent standard by an accredited assessor.

4.30

One of the key ways that this can be achieved is to ensure that the proposal has been designed in a way that includes the maximum amount of photovoltaic (PV) solar panels on the roof or it incorporates other suitable forms of renewable energy generating schemes that are appropriate for the location or the setting.

¹: BREEAM is a tool for assessing the environmental sustainability of a development. For further information on BREEAM please refer to

<https://bregroup.com/products/breem/>



Policy CN 3**Energy efficiency standards to reduce carbon emissions****POLICY**Policy
CN3

The Council has declared a climate emergency and has committed to providing the leadership for the district to be carbon neutral by 2030. This will contribute to the UK's legally binding target of net zero carbon by 2050.

In order to achieve this all new developments should seek to demonstrate the lowest level of carbon emissions in line with the requirements set out below unless there are exceptionally clear and compelling reasons that have been established through the design process that demonstrate that achieving these standards produces a development that would be harmful to its setting or the character of the wider area:

All new residential dwellings

All new residential dwelling should not burn any fossil fuels on site for space heating, hot water or used for cooking. New residential dwellings will need to be able to demonstrate net-zero operational carbon on site by ensuring:

- i. The predicted space heating demand of the homes based on predicted energy modelling such as Passivhaus Planning Package (PHPP) or CIBSE TM54, showing that the target of <15 kWh/m²/year is met.
- ii. The total kWh/yr of energy consumption of the buildings based on predicted energy modelling tools such as Passivhaus Planning Package (PHPP) or CIBSE TM54 showing that the target of <35 kWh/m²/year is met.

- iii. The total kWh/yr of energy consumption of the buildings on the site and the total kWh/yr of energy generation by renewables to show that the balance is met.
- iv. Onsite renewables to provide 100% of the energy consumption that is required by residential buildings, for example through the installation of photovoltaic solar panels or other suitable forms of renewable energy generating schemes that are appropriate for the location or the setting.

Non-residential development

- v. Non-residential development should meet the 'BREEAM Excellent' standard. A pre-assessment should be provided at planning submission.

Measurement and verification

Applicants should confirm the metering, monitoring and reporting strategy as part of the detailed planning application. The energy efficiency calculations should be carried out as part of the outline and detailed planning submissions and be reconfirmed at the pre-commencement stage.

An explanation should be given as to how figures have been calculated as part of the planning application.

It is envisaged there will be an electronic form to complete post-completion to monitor. This will be prepared once the Plan is adopted.

WATER EFFICIENCY IN NEW DEVELOPMENT

What are we aiming to achieve



In recognition that the district is located in a water stressed area we want to reduce personal water consumption in all new

development proposals to 100 litres per person/per day unless impractical for this standard to be met for technical reasons.

4.31

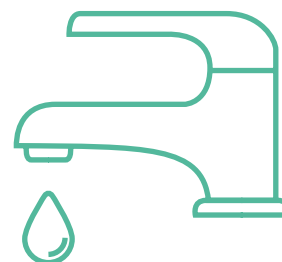
Water is a finite resource and one of the key issues facing our environment is fresh water scarcity. The South East of England is classified as a seriously water stressed area by the Environment Agency as it has the lowest levels of rainfall and high population density. Southern Water are currently investigating ways to tackle leakage, targeting households to save water and investigating new areas of investment to safeguard future water supplies. Nutrient pollution (phosphorous and nitrogen) is also causing a significant issue in district and wider Solent area – see Policy NE16.

4.32

This all comes at a time when climate projections point to drier and warmer summers with more extreme weather events and more frequent/severe droughts. These events are expected to result in a higher demand for water whilst adversely impacting supply.

4.33

The more water that is abstracted from the ground to meet this growing demand the less water there is for rivers, streams and wildlife. This means that there are a number of competing demands on the use of water. This balancing act is anticipated to become even more challenging in the future, when taking into account an increased population (through additional development) and the likely effects of a changing climate on the availability of water resources. This means that the Local Plan has a key role in ensuring that new development is designed to be water efficient.



4.34

The city council currently requires developers (via policy CP11) in Part 1 adopted Local Plan (Core Strategy) to achieve code 4 of the Code for Sustainable Homes which means developers have to achieve less than 105 litres per person per day. Southern Water has a 'T100 target' which is based on a maximum water capacity use of 100 litres per person per day whilst at the same time reducing

leakage by 15% by 2025 and 40% by 2040. Given that the South East of England is located in a water stressed area, Policy CN4 is aligned with the Southern Water T100 target. Water efficiency measures beyond this requirement will be encouraged. All developments must meet the requirement of Policy NE6 on Sustainable Urban Drainage Systems (SuDS).



Policy CN 4

Water efficiency standards in new developments

Developments will be required to meet a high standards of water efficiency:

- i. Residential developments should be designed to achieve a maximum water capacity use of 100 litres/ person/day from mains/private water supply in order to help manage the demand for water unless it can be demonstrated that this is not feasible.
- ii. Any refurbishments and other non-domestic development would be required to meet BREEAM water efficiency credits.
- iii. Water use management and conservation (e.g. rainwater recycling and grey water harvesting) is dealt with under Policy CN1.

POLICY



4.31

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4.34

LOW CARBON INFRASTRUCTURE

4.35

The Local Plan has a key role in helping to promote the use of low carbon infrastructure which will assist with meeting the council's climate emergency.

RETROFITTING TO REDUCE CARBON EMISSIONS

4.36

A study on climate change¹ suggests that 12% of all direct carbon emissions (those harmful greenhouse gases) in the district are produced by domestic gas, and another 7% from using heating oil and other fossil fuels. This means that there is considerable potential to reduce emissions if owners of the older housing stock can be encouraged to install energy efficiency measures and renewable energy technologies can be installed and/or be linked to decentralised energy schemes as part of new or refurbished developments. Water efficiency measures can also be retrofitted. There are a range of benefits to retrofitting homes which include:

- Assisting with meeting the council's climate emergency;
- Improving the health and wellbeing of residents as a result of living in homes that are warmer and less damp in the winter;
- Keeping houses cooler in summer when there are heatwaves;
- Financial savings from more efficient energy uses for the occupiers of the buildings, which is particularly relevant for the 'fuel poverty'; and
- Improvements to air quality in terms of a reduction in emissions.

4.37

Fuel poverty¹ is defined as a household that has above-average energy costs, and if paying those costs would push it below the poverty line as far as its remaining income is concerned.

4.38

The council will, therefore, as part of climate emergency declaration encourage and support the sensitive retrofitting of energy efficiency measures which will be considered against national planning policy. Proposals for retrofitting Listed Buildings (which are more sensitive to retrofitting options) will be assessed against Policy HE14.



RENEWABLE AND LOW CARBON ENERGY SCHEMES

What are we aiming to achieve



We aim to offer a supportive planning policy that actively encourages and supports renewable and low carbon

energy schemes to come forward for development in order to meet the council's climate emergency declaration.



4.35

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4.41

4.39

The generation of renewable and low carbon energy will help to contribute to national targets and the council's climate emergency. A Renewable Energy Study that was undertaken for the council forms part of the evidence base of the Local Plan. This calculated that there was target potential for renewables equating to 17% of current energy demand. However, a large proportion of this potential was in connection with large-scale wind turbines which due to the topography, would be located in the South Downs National Park (SDNP). This means that the greatest potential for renewable and low carbon energy schemes in the part of the district that is located outside of the SDNP, is from solar energy generation.



4.40

According to the study¹, in order to meet the council's climate emergency:

- It would require a sixfold increase of local solar farm capacity and about 2,500 acres of land to meet the council's climate emergency targets;
- Approximately 11,000 further homes and businesses will need to install rooftop panels;
- A sixfold increase in existing solar capacity is very significant, beyond the scope of suitable roof space, even if the necessary subsidies become available; and
- Utility scale ground-based solar will deliver a major share of the capacity requirement, as in the past.

4.41

The city council has a strong track record of supporting green energy schemes in the district and as such has included Policy CN5 which is a permissive policy to help support the delivery of these schemes.

¹ Winchester Action on the Climate Crisis, Report 2021

COMMUNITY ENERGY SCHEMES

4.42

‘Community energy’ refers to the delivery of demand reduction and energy supply projects that are either wholly owned and/or controlled by communities or through a partnership with commercial or public sector partners. Community-led action, which brings people together to tackle energy issues, has the major advantage that they are well placed to understand their local areas and can bring people together with common purpose and this can have a key role in helping to address the council’s climate emergency.

4.43

In collaboration with Community Energy South, Hampshire County Council is providing support to establish new community energy groups and projects throughout the county <https://www.communityenergysouth.org/hampshire>

4.44

District Energy Systems have a central energy centre serving a range of buildings through a network of underground pipes and cables. These systems are widely recognised as a sustainable, cost-effective solution for the provision of heating, cooling and power for homes and businesses. The city council will be supportive of district energy schemes which tend to be an appropriate energy solutions on larger schemes in urban areas.



Policy CN 5**Renewable and low carbon energy schemes**

Development proposals for the generation of renewable and low carbon energy will be supported especially where it can be demonstrated that it is community energy scheme.

When assessing proposals for the generation of renewable and low carbon energy proposals should demonstrate how they have taken account of the following:

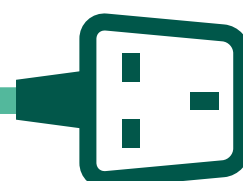
- i. The potential loss of the best and most versatile agricultural land;
- ii. The need to avoid an unacceptable impact on landscape and visual amenity of areas designated for their local, national or international importance, such as the South Downs National Park (including its setting), conservation areas and heritage assets, including their setting by undertaking a Landscape Visual Appraisal/Impact Assessment;
- iii. The location, scale, design and other measures to avoid or mitigate any adverse effects on the built environment, biodiversity, landscape and neighbouring uses in terms of cumulative impacts;
- iv. Potential to integrate with new or existing development, whilst avoiding harm to existing development and communities;
- v. Benefits to host communities;
- vi. A management plan that identifies the opportunities for environmental/wildlife enhancement;
- vii. Proximity to biomass plants, fuel sources and transport links;
- viii. Restricting lighting to emergency use only;
- ix. Connection to the electricity network;
- x. An emergency plan for the battery storage facility to address the risk of fire; and
- xi. The need to demonstrate through the submission of a restoration plan how the materials on the site will be recycled/re-used if the site reverts to its former use as a result of the proposal ceasing to be operational.



4.42

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4.44



ADOPTING A POSITIVE STRATEGY FOR MICRO ENERGY GENERATION

What are we aiming to achieve



We aim to offer a supportive planning policy that actively encourages and supports micro generation schemes

to come forward for development in order to help meet the council's climate emergency declaration.

4.45

Small-scale energy production is called micro-generation. It refers to systems under 50kW for electricity or 45kW in the case of heat. The opportunities for micro energy as an alternative to using fossil fuel can include any of the following technologies:

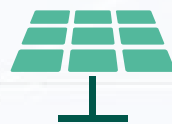
4.46

Micro-renewable energy generation offers potential to supplement and meet some of the district's energy demands. When choosing a micro-renewable system it is important to understand the energy needs as well as having a clear understanding of the biodiversity, architectural, historic, and archaeological significance of the location of the installation so that it does not have a detrimental impact on the property or the surrounding landscape or immediate neighbours.



Small-scale biomass system

This generates heat for hot water and space heating by burning organic matter. Although carbon dioxide is released in the process, this is balanced by the amount absorbed during the growth of the plant matter. This gives the system potential to be close to being carbon neutral.



Solar hot-water panels

This is currently the most common type of micro-generation technology currently used due to their relatively low cost and ease of installation. They can be used to produce hot water and, occasionally, for space heating.

Policy CN 6

Micro energy generation schemes

The council will support proposals for micro energy generation. This includes heat and power generated from solar, ground source/air source heat pumps, hydro-electric schemes, small scale biomass schemes and other low carbon heat or power sources providing that it can be demonstrated that:

- i. There is no unacceptable impact on the architectural, historic, archaeological significance or on the natural environment;
- ii. The noise impacts from the operational use of the proposal has been acceptably mitigated; and
- iii. Proposals have been sensitively integrated with the whole building including where applicable its roof profile in order to avoid an unacceptable impact on the appearance of the building and the surrounding landscape.



Heat pumps

Ground source heat pumps - these work on the principle of absorbing heat from one place and releasing it in another. Heat is collected from one of three sources: the air, the ground or a body of water. The heat is transported around a sealed system by a refrigerant, which is circulated by a compressor. The system operates in a continuous cycle while the pump is running. These tend to be more common with new build rather than retro-fitting as the cost of the necessary boreholes or installing ground arrays can often be reduced by incorporating them into general groundworks at an early stage of a project.

Air source heat pumps – these typically comprise an outdoor unit around the size of a fridge, which is usually ground-mounted. Whilst many recent models are very quiet, some occupants or neighbours may be aware of noise produced by older units that it is not possible to attenuate through siting or screening. These heat pumps may not be an appropriate solution for every type of building or it may not be possible to site the air source heat pump in a particular location.



Hydroelectric schemes

Have a very long history of use and many water mills are good examples of utilising the power of water to generate electricity/power.

ENERGY STORAGE

What are we aiming to achieve



We want to offer a supportive planning policy that encourages as part of the

design process to consider how a proposal can support energy storage.

4.47

Over the Local Plan period to 2039 there is likely to be a dramatic shift in the way that people travel in terms of e-mobility (this includes all forms of electric propulsion to power a wide range of transportation). In recognition that there will be a steady and an increasing requirement to smooth out the demand for electricity it is essential that we plan development to incorporate easily accessible power sources to charge and store e-mobility transport – see Policy T3 in the Design topic.

4.48

An energy storage facility can be used to store any excess power that is generated from low carbon energy sources and can be used to power a range of e-mobility transport rather than transferring this generated energy back to the grid. It is essential that the design of these energy facilities does not detract from the built and natural environment, have impact in terms of noise and disturbance on neighbours and they are carefully planned and positioned on a site and they are not just an after-thought at the end of the design process.

Policy CN 7

Energy Storage

Development proposals that involve energy storage will be supported subject to meeting the following criteria:

- i. The energy storage facility is co-located with existing and proposed renewable energy development;
- ii. The location, scale, design and other measures in connection with the facility are designed in order

- to avoid or mitigate any adverse unacceptable impact on the built environment, biodiversity, heritage, landscape and the surrounding area in terms of cumulative and indivisibility impact; and
- iii. The proposals are not of a scale that would involve the installation of cooling fans unless the noise impacts from these have been acceptably mitigated.

POLICY