

Appendix 2 - Preferred Policy Option 132 Carbon Dioxide Emissions and On-site Renewable Energy

Energy use in new development (general principles):

New build residential development will aim to achieve zero operational emissions by reducing heat and power demand then supplying all energy demand through onsite renewables. Through the submission of an appropriate energy assessment, proposed new dwellings residential development will:

- Minimise the demand for heating, cooling, hot water, auxiliary energy, lighting and unregulated energy consumption through energy efficiency measures;
- Keep space heating demand less than 30kWh/m²/annum and total energy use less than 40kWh/m²/annum based on CIBSE's TM54 Guidance;
- Maintain on site renewable energy generation to match the total energy use;
- Connect to a low- or zero-carbon District heating network where available; and
- Meet any outstanding reduction in residual energy use through energy offsetting.

Energy Statements

Applications for all new residential development of one unit and above and for all new commercial development will be required to submit an Energy Statement demonstrating that development proposals will comply with the following criteria for carbon reduction having regard to feasibility and viability.

- ~~a) produce 20% less carbon dioxide emissions than Building Regulations Part L requirements (2013)~~ Achieve a reduction in carbon emissions of at least of 31 per cent in residential buildings and a reduction in carbon emissions of at least 27 per cent in other buildings measured against the relevant Target Emission Rate (TER) set out in the Building Regulations (as amended) (Part L) ~~having regard to feasibility and viability~~. If these standards are superseded during the plan period, it is expected that the maximum standard required under national planning policy or Building Regulations that apply at the time are met. Developments that go beyond these standards and contribute to further reducing carbon emissions will be favourably considered.
- b) This may be achieved through a combination of energy efficiency measures; incorporation of onsite low carbon and renewable technologies; connection to a local, decentralized, renewable or low carbon energy supply (this would be broadly equivalent to 25% of all energy used) and / or efficiency measures
- c) Proposals for zero carbon development are strongly supported and the development of renewable, low and zero carbon and decentralised energy, are strongly supported and encouraged.
- d) The Energy Statement will include details as to how the policy will be complied with and monitored.

Existing buildings

Where work is being carried out to existing buildings and it is not feasible for the full residential and non-residential targets above to be met, the Energy Statement should show that energy demand has been reduced to the lowest practical level using energy efficiency measures, heating/cooling systems have been selected in accordance with the heating/cooling hierarchy and that on-site renewable energy will be installed where feasible.

PassivHaus standards

New developments and those involving existing buildings are encouraged to deliver carbon reduction adhering to Passivhaus standards, which is seen as the most stringent low 'energy in use' standard consistent with LETI's Climate Emergency Design Guide. This standard also relies on a more accurate energy demand assessment methodology using the Passive House Planning Package (PHPP).

Reasoned justification

7.0 Minimising our contribution to climate change by continuing to reduce greenhouse gas emissions is a key consideration for the new Local Plan. Despite reductions in greenhouse gas emissions in recent years, the effects of climate change are projected to continue with the potential for hotter, drier summers and milder, wetter winters, along with an increase in the frequency of intense rainfall events.

7.1 In response to climate change the Climate Change Act 2008 requires a reduction in greenhouse gas emissions from the 1990 baseline of at least 34% by 2020 and 80% by 2050. The Act (amended 2019) commits the UK government to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. The Government intend to deliver this by setting and meeting five-yearly carbon budgets for the UK for that period.

7.2 In May 2019, the Council declared a climate emergency and is committed to use all practical means to reduce greenhouse gas emissions. In March 2021, in response to the declaration, the Council adopted the Climate Change and Sustainability Strategy which sets a target to assist the District to achieving net zero by 2045. The Tyndall Report 2023, shows that for Three Rivers to make its fair contribution to delivering the Paris Agreement's commitment to staying "well below 2°C and pursuing 1.5°C" global temperature rise, then an immediate and rapid programme of decarbonisation is needed. At 2017 CO₂ emission levels, Three Rivers will exceed the recommended budget available within 6 years from 2020. To stay within the recommended carbon budget Three Rivers will, from 2020 onwards, need to achieve average mitigation rates of CO₂ from energy of around -14.1% per year. This will require that Three Rivers rapidly transitions away from unabated fossil fuel use.

7.3 The government has proposed national standards through the most recent update to the Building Regulations¹. New dwellings and non-residential buildings must achieve reductions in carbon emissions of at least 31 per cent and at least 27 per cent respectively through the provision of appropriate low and zero carbon energy technologies in the locality of the development and improvements to the energy performance of the building. These standards apply to new construction as well as to any building alteration or change of use involving replacement of a thermal element (roof, wall or floor).

7.4 The baseline for the carbon reduction is the relevant Target Emission Rate set out in the Building Regulations 2010 (as amended). The 2010 Building Regulations have been subject to a number of amendments, including changes to carbon emissions standards in 2013. The baseline for the carbon reduction is therefore the relevant 2013 Target Emission Rate.

7.5 The carbon emission standards apply to each new building individually. **The Council recommends and encourages all development proposals to undertake a CIBSE TM59 overheating assessment to evaluate how overheating can be mitigated. This is not a policy requirement, but exemplary developments will address climate adaptation.**

7.6 Improvements to building standards will be necessary if the UK is to reach net zero carbon emissions by 2050 and Three Rivers to meet its target of zero carbon across the District by 2045. Domestic emissions alone account for 30.2 per cent of total emissions in Hertfordshire in 2020. The government has signalled its intention to implement a national low carbon standard for homes and buildings (the Future Homes and Future Buildings standards, expected to be implemented by 2025). This policy functions as an interim step.

7.7 The technical specification for the Future Homes Standard will be consulted on in 2023, legislated for in 2024 and implemented in 2025. A draft notional building specification has been published – which will be subject to further technical work and consultation showing

- **New homes will not be built with fossil fuel heating (a performance-based standard will be used to deliver this commitment, rather than banning technologies).**
- **No further energy efficiency retrofit work will be necessary to enable homes to become zero-carbon as the electricity grid continues to decarbonise.**
- **Measures will be put in place to reduce the performance gap.**
- **An average home will produce at least 75% lower CO₂ than one built to current (2013) standards.**
- **Existing homes will be subject to higher standards with a ‘significant improvement’ on the standard for extensions.**

¹ The draft Part L standards are available online at:

<https://www.gov.uk/government/publications/buildingregulations-approved-documents-l-f-and-overheating-consultation-version>

