



Climate Emergency Development Plan Document

Topic Paper: Sustainable Energy and Construction



This is one in a series of topic papers produced to inform the preparation of the Council's Climate Emergency Development Plan Document (DPD)

Topic Paper
Renewable energy
Natural climate solutions
Town Centres
Mine water energy and deep geothermal
Sustainable Energy and Construction
Coastal Change and flood management
One Planet Development/Alternative living
Transport
Agriculture and Rural Sustainability

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Executive Summary

Direct emissions from the Buildings sector are responsible for 18% of emissions (742 ktCO₂e) (University of Exeter, 2019). There are significant opportunities to drastically reduce this figure.

The 2011 census recorded 230,400 households in Cornwall. The Cornwall Local Plan requires 52,500 homes to be built by 2030 and approximately half of these have already been completed (however, it should be noted that there is no 'upper ceiling'). Ensuring that new buildings can both minimise contribution to and adapt to climate change is crucially important

In Cornwall, fuel poverty affects almost 13% of all households which is just over 31,800 homes (BEIS Fuel Poverty statistics, 2018 data). This is above the England average of 10%. Therefore, improving fabric standards and energy efficiency and minimising future space heating requirements is not only the most sustainable approach, but is also a crucial element of addressing fuel poverty and improving social equity.

National planning policy specifically relating to energy efficiency and building standards and renewable energy is set out in Section 14 'meeting the challenges of climate change, flooding and coastal change' paragraphs 148 to 153 of the NPPF. Ensuring the highest possible standard of energy and thermal efficiency from new buildings is a key element of reducing the carbon footprint of Cornwall, but local plan policy does not currently require standards higher than those of current building regulations.

Increasing numbers of Local Authorities around the UK are developing more ambitious energy policies. However, a 2019 government consultation on the implementation of the Future Homes Standard and uplift to Building Regulations proposed to restrict Local Authorities from setting their own standards. In January 2021, the government confirmed that Local Authorities will be allowed to continue to set their own energy standards for the time being.

The Sustainable Energy and Construction policy has been developed with the intention of:

- Tackling fuel poverty;
- Improving the energy and water efficiency of development;
- Increasing the installation of renewable energy on residential and non-residential development;
- Reducing carbon emissions from residential and non-residential buildings; and
- Increasing the resilience and sustainability of development in Cornwall.

What is this topic paper about?

The Council is preparing a new Plan to set the framework for dealing with climate change. This will sit underneath the Local Plan and forms the strategic framework for planning decisions. This topic paper summarises the latest available evidence on Energy and Sustainable Construction. Reflecting the wide scope of this topic there are a number of overlaps between this paper and the other papers.

To view all the topic papers and the latest update on the Climate Emergency DPD, please visit www.cornwall.gov.uk/climatechangedpd

Can I comment on this topic paper?

The Climate Emergency DPD topic papers are factual in nature and set out the planning policy context and current issues in Cornwall, along with potential future approach to inform policy development. There will be opportunities to comment on the content of the Climate Emergency DPD at various stages of its development. As such we are currently seeking views on these topic papers, in particular any gaps in evidence.

If you wish to be kept informed of any forthcoming consultation please email climateemergency.dpd@cornwall.gov.uk with your contact details.

Introduction

Carbon Emissions and Fuel Poverty

Direct emissions from the Buildings sector are responsible for 18% of emissions (742 ktCO₂e) (University of Exeter, 2019)¹. There are significant opportunities to drastically reduce this figure. The 2011 census recorded 230,400 households in Cornwall. The Cornwall Local Plan requires 52,500 homes to be built by 2030 and approximately half of these have already been completed (however, it should be noted that there is no ‘upper ceiling’). Ensuring that new buildings can both minimise contribution to and adapt to climate change is crucial.

In Cornwall, fuel poverty affects almost 13% of all households which is just over 31,800 homes (BEIS Fuel Poverty statistics, 2018 data). This is above the England average of 10%. Therefore, improving fabric standards and energy efficiency and minimising future space heating requirements is not only the most sustainable approach, but is also a crucial element of addressing fuel poverty improving social equity.

The Energy Hierarchy

Through the draft Climate Emergency DPD, we are proposing a requirement for developments to follow the energy hierarchy (see Figure 1); that is to prioritise energy reduction and energy efficiency first, before looking at renewables/low carbon solutions and then offsetting residual carbon.

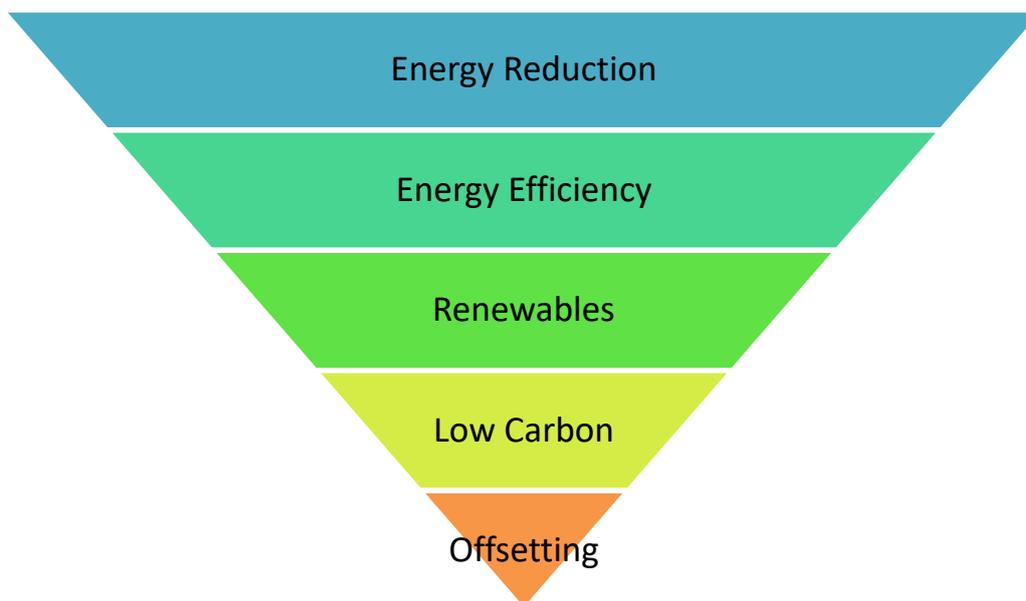


Figure 1: The Energy Hierarchy

¹ Centre for Energy and the Environment, University of Exeter (2019): *Cornwall Climate Emergency: Pathways to “Net Zero”*

Intelligent design, improved building materials, insulation, energy efficient systems and appliances and renewable energy technology will not only reduce carbon emissions, but also help to address issues around fuel poverty.

A key issue is heating; the heat supply to buildings will need to be decarbonised, for example, with heat pumps or low carbon heat networks.

Water Efficiency

The use of water in all development has a considerable impact on carbon emissions, related to the pumping, distribution and treatment of water and sewage.

Though we are unable to require it, we want to encourage the optional higher water efficiency standard within Building Regulations Part G² for new dwellings (110 litres/person/day).

Rainwater harvesting, and greywater recycling systems may be used alongside water efficient internal fixtures (taps, baths, showers, etc.) to further reduce the demand upon mains water and the amount of water which requires treatment.

In addition to reducing carbon emissions, water efficiency is of course also important in terms of conserving water itself, which is increasingly important with our changing climate.

Offsetting

In the short term it will be challenging and expensive to achieve zero carbon buildings across the board. It is likely that carbon offsetting (using additional actions to mitigate carbon impacts and help achieve a net zero) will need to play a role to help us reach our ambitious target in some instances. However, it is important to be clear that our strong preference is for developments to minimise energy use and match energy use with onsite renewable energy generation wherever possible.

Carbon offsetting means compensating for carbon dioxide emissions arising from a development/activity, by participating in schemes designed to make equivalent reductions of carbon dioxide in the atmosphere, for example large scale tree planting projects like the [Forest for Cornwall](#)³.

Carbon offsetting could happen 'on site' including requirements for onsite renewables or planting or contributions made to a Cornwall Offset fund which could then be used to fund rewilding and afforestation projects, improvements to the insulation of older houses/buildings and support local low carbon and renewable energy projects.

² Ministry of Housing, Communities and Local Government (2010): *Building Regulations: Sanitation, hot water safety and water efficiency: Approved Document G* [online] available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/504207/BR_PDF_AD_G_2015_with_2016_amendments.pdf

³ Cornwall Council (2020): Forest for Cornwall Programme [online] available at: <https://www.cornwall.gov.uk/environment-and-planning/grow-nature/about/forest-for-cornwall-programme/>

Retrofitting

Measures are also needed to address emissions from existing buildings. In a residential property this means insulating every available loft and cavity walled building, along with the majority of solid walled buildings. Much of this falls outside the remit of planning, however, there are opportunities where applications are made for change of use, conversions, reversions and extensions⁴.

Sustainable Construction

The DPD provides an opportunity to further promote the principles of sustainable construction which have been highlighted in the [Cornwall Design Guide](#)⁵. Sustainable Construction is important to our approach to climate change, but also has many other environmental, social and economic benefits. We should be achieving the highest standards of sustainable design and construction in Cornwall to improve the environmental performance of new developments, minimising contribution to climate change and adapting to the effects of climate change over their lifetime.

Policy Context and Evidence

National Planning Policy

National planning policy specifically relating to energy efficiency and building standards and renewable energy is set out in Section 14 'meeting the challenges of climate change, flooding and coastal change' paragraphs 148 to 153 of the [NPPF](#)⁶.

The [Climate Change Act](#)⁷ commits the UK government to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. The Government expects each local authority to contribute to meeting the targets and reducing overall demand for energy. In January 2019, Cornwall Council declared a '[climate emergency](#)' in recognition of the need to take urgent action⁸.

⁴ The Carbon Neutral Cornwall team is leading a retrofit project for houses managed by Cornwall Housing. This is outside of the remit of planning policy but is a good example of other important work in this area <https://www.cornwall.gov.uk/environment-and-planning/climate-emergency/our-action-plan/what-is-cornwall-council-doing/whole-house-retrofit/>

⁵ Cornwall Council (2020): *Cornwall Design Guide* [online] available at:

<https://www.cornwall.gov.uk/environment-and-planning/planning/planning-policy/adopted-plans/planning-policy-guidance/cornwall-design-guide/>

⁶ Ministry of Housing, Communities and Local Government (2019): *National Planning Policy Framework* [online] available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

⁷ UK Government (2008): *Climate Change Act* [online] available at:

<https://www.legislation.gov.uk/ukpga/2008/27/section/1>

⁸ Cornwall Council (2019): *Climate Emergency Declaration* [online] available at:

<https://www.cornwall.gov.uk/environment-and-planning/climate-emergency/>

Planning plays an important role in minimising our contribution to/increasing resilience to the effects of climate change. It can provide a positive and encouraging framework for change and can resist harmful development.

Ensuring the highest possible standard of energy and thermal efficiency from new buildings is a key element of reducing the carbon footprint of Cornwall, but local plan policy does not currently require standards higher than those of current building regulations.

Increasing numbers of Local Authorities around the UK are developing more ambitious energy policies. However, a 2019 government consultation on the implementation of the Future Homes Standard and uplift to Building Regulations proposed to restrict Local Authorities from setting their own standards. In January 2021, the government confirmed that Local Authorities will be allowed to continue to set their own energy standards for the time being.

The policy is based on advice and evidence provided by the South West Energy Hub, sustainability consultants Etude, economic viability assessment and consultation feedback.

Local Planning Policy

The [Cornwall Local Plan](#)⁹ promotes sustainable development and currently contains four policies with direct relevance:

- Cornwall Local Plan
 - Policy 1 - Presumption in Favour of Sustainable Development
 - Policy 12 - Design
 - Policy 13 - Development Standards
 - Policy 16 - Health and wellbeing
- [Cornwall Design Guide](#)

Evidence

Energy

The responses to consultation were overwhelmingly supportive with a strong message to go further. We have to balance what we require with viability¹⁰, other requirements (such as affordable housing and other contributions) and against the backdrop of the emerging Future Homes Standard.

⁹ Cornwall Council (2016): *Local Plan Strategic Policies 2010 – 2030* [online] available at: <https://www.cornwall.gov.uk/media/22936789/adopted-local-plan-strategic-policies-2016.pdf>

¹⁰ If we require higher energy efficiency standards, we need to provide evidence that the requirements are viable. That is, that the policy requirements for development set out within the DPD do not threaten the ability of the sites and scale of that development to be developed viably.

In recognition of the Climate Emergency and the very real need to meet net zero as soon as possible, Cornwall Council has collaborated with the South West Energy Hub and sustainability consultants Etude to carry out energy modelling work tailored specifically to Cornwall¹¹. This has been combined with cost modelling and a viability assessment to generate a new policy approach for Cornwall. All new residential development is required to achieve net zero carbon (subject to further viability testing) and for non-residential development to achieve BREEAM 'Excellent' which has been shown to be viable through testing.

The policy is also based on the principles outlined in the new Cornwall Design Guide (Climate Change and Community Resilience: Outcomes RESOURCE 1 and 2).

Water

The water efficiency policy wording is based on the principles outlined in the new Cornwall Design Guide (Climate Change and Community Resilience: Outcome RESOURCE 3) and on the optional higher water efficiency standards within Building Regulations Part G for new dwellings (allowed to be incorporated as a requirement into planning policies through the Optional Technical Standards).

This policy has been discussed with the Environment Agency and is encouraged 'where feasible' rather than a requirement, as Cornwall is not in an area of high water stress. Despite not being able to demonstrate a need for this standard on the basis of water stress, we believe it is important to promote resource efficiency wherever possible, which is the reason we have included this in the policy.

Offsetting

As outlined in the introduction, in the short term it may be challenging to achieve zero carbon buildings across the board. As such, it is likely that carbon offsetting will need to play a role to help us reach our ambitious target in some instances. Although there are criticisms of carbon offsetting, there are also many benefits in addition to carbon emission reduction. This obviously depends on the offset project type, but they can bring many socio-economic and environmental benefits as well.

At this stage it is anticipated that offsetting could take a range of forms, ideally onsite in the first instance, or if not, a contribution to a Cornwall Offset Fund which could be used to fund a range of projects: from rewilding and afforestation to retrofitting and renewables.

Retrofit

As explained in the introduction section, there are limited opportunities to encourage retrofitting of existing buildings through the DPD, primarily where applications are made for change of use, conversions, reversions and extensions.

¹¹ Etude and Currie and Brown (2021): *Cornwall Council Climate Emergency DPD: Energy Modelling and Review*

A key issue for the DPD is to promote retrofitting where possible, but to also be mindful of other issues. Sometimes there can be conflicts between energy efficiency/renewable technology and preserving our historic environment/heritage. Therefore, where improvements relate to historic buildings, we want to encourage applicants to refer to Cornwall Council's '[Improving Energy Efficiency in Historic Cornish Buildings](#)'¹² guidance (or any subsequent revision).

Sustainable Construction

The scoping consultation response gave a clear message that people want us to look at wider sustainability issues. We are keen to do this while not drifting outside of the 'climate emergency' scope. Our draft approach to sustainable construction is based primarily upon emphasising relevant, important elements of the Local Plan (e.g. best use of land) and drawing out key point from the new Cornwall Design Guide (Climate Change and Community Resilience: Outcomes RESOURCE 4 and 5; Liveable Homes: Outcome EXTERNAL 2).

There are elements that were included in early iterations of the draft policy such as green infrastructure, connectivity, active travel, flooding and drainage, however, due to duplication, these elements were amalgamated into other sections of the DPD.

Further work/enhanced evidence needs

There is further work required to support this policy going forwards. This includes:

- **Energy Statement Template** – An energy statement form/template will need to be developed to support this policy and its delivery
- **National Policy approach** – Despite a statement from MHCLG in January 2021 confirming that Local Authorities will be allowed to continue to set their own energy statements, this lacked any detail. Further guidance is awaited relating to this statement and any detail around the Government's views on an appropriate level of uplift, particularly given the very dated references in current planning policy guidance.
- **Viability** – Further viability testing work relating to the energy efficiency and renewable energy requirements for new development is required to understand deliverability the impact on the market.
- **Carbon Offsetting fund for Cornwall** - further work will be needed to develop this in terms of partners, process, governance, projects, priorities etc

¹² Cornwall Council (2016): *Improving Energy Efficiency in Historic Cornish Buildings* [online] available at: <https://www.cornwall.gov.uk/media/22777783/improving-energy-efficiency-in-cornish-buildings-camborne-thi-nov-16.pdf>