



Warwick District Council NZC DPD Examination Matter 4: Reducing energy demands & energy efficient buildings

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1 Question 4.1

Are the requirements within Policy NZC2(A) justified and is the approach of the policy reasonable, justified and effective?

- 1.1 The Warwick DC Zero Carbon DPD Energy and Sustainability Policy Review [SUB5], under the section 'Reducing Energy Demand / Improving Energy Efficiency' sets out the justification for the specific % improvements in carbon reduction through energy efficiency.
- 1.2 Setting a target improvement in energy efficiency is reasonable as it represents the first stage in the energy hierarchy and seeks to reduce the demand for energy through more thermally efficient fabric and other measures to improve energy efficiency. This is considered critical as part of the transition to net zero carbon as it:
- Reduces the demand on the electricity grid - excellent energy efficiency in new builds will help to reduce new development's contribution to the need for grid reinforcement
 - Reduces the need for additional renewable energy (thereby reducing the cost and embodied carbon implications of producing new renewable energy generation equipment, and also improving efficiency of land use by reducing 'land take' for standalone renewable energy)
 - Reduces the need for expensive retrofit in coming years to achieve the energy efficiency standards required to hit the national legally binding net zero carbon target (retrofit to these standards costs three to five times as much as the cost of achieving them in new build [SUB5, Section 1])
 - Helps with the social and economic needs of affordable living (reducing fuel poverty) and helping businesses survive by minimising the running cost of energy use at their premises.
- 1.3 The policy sets a % improvement in fabric and energy efficiency calculated against Building Regulations (SAP or SBEM).
- 1.4 For residential dwellings the 10% improvement in *fabric efficiency* required by NZC2(A) (based on Building Regulations Part L 2021) approximately reflects the notional fabric of the Future Homes Standard. Analysis in Warwick [SD7] has shown that a dramatic improvement in home energy efficiency (beyond the existing building regulations) is necessary in order for Warwick to hit its own carbon reduction commitments, which in turn are a necessary part of the fulfilment of national climate/carbon commitments. This approach is therefore reasonable, justified and effective as the policy requirement would approximately align with the Target Fabric Energy Efficiency (TFEE) of the Future Homes Standard.

- 1.5 For non-residential buildings, the 19% improvement in regulated carbon emissions via energy efficiency measures is calculated against a baseline of Building Regulations Part L 2013. The % is based on what has been demonstrably feasible and viable in other districts for several years [SUB 5, page 6, reference to Milton Keynes].
- 1.6 In the Milton Keynes Local Plan 2016-2031 Policy SC1 states that all major proposals (residential and non-residential) must deliver a 19% reduction in regulated carbon emissions compared to the Building Regulations Part L 2013, *and then* a further 20% carbon reduction through renewable energy measures. Therefore, the first 19% must be delivered only via fabric measures and efficient building services (such as lighting, heat recycling, etc.); this is confirmed in the relevant SPD which also notes that buildings consented in that district several years prior to plan adoption were already achieving a typical 41% carbon reduction.
- 1.7 Further evidence of technical feasibility can be found in national-level analysis¹ showing that, for example, a 15% reduction in new build offices' regulated carbon emissions (against Part L 2013 baseline) can be made simply by switching to high-efficiency lighting and a 20% carbon reduction can be reached if the developer also makes minor improvements in fabric or other services.
- 1.8 The policy is necessary because analysis [SD7] has demonstrated that energy efficiency improvements in non-domestic buildings must contribute to a 17% reduction in non-domestic buildings' carbon emissions by 2030 (and 40% by 2050) in order to have any chance of meeting the carbon reductions necessary in Warwick in order to fulfil its own climate commitments and play its full role in fulfilling national carbon reduction commitments. This district-wide energy efficiency trajectory is needed for the entire non-domestic buildings sector in Warwick, the majority of which is represented by existing buildings which will need to go through retrofit which is far more challenging and costly, therefore a greater contribution to carbon reductions should be made in new buildings which are easier to improve. This therefore is reasonable, justified and effective.
- 1.9 The Warwick DC Zero Carbon DPD Energy and Sustainability Policy Review [SUB5] outlines how the approach to NZC2(A) was justified in relation to known calculations of energy efficiency as part of Governments' technical standards, or based on sound judgement of other local plan policy requirements. Policy NZC2(A) is therefore considered justified.
- 1.10 It is an important reminder that retrofitting a house with the necessary insulation and low carbon heating (to be fit for a zero carbon future) is typically three to five times more expensive than building to those standards in the first place [SUB 5 page 3]. This also has ramifications for higher embodied carbon due to the use of replacement building materials used in retrofitting (as opposed to keeping existing materials in use for longer) – it is therefore essential that a fabric first approach is taken.

¹ *Currie and Brown on behalf of Committee on Climate Change (2019), ibid.*

2 Question 4.2

How do the requirements of Policy NZC2(A) – Making Buildings Energy Efficient sit against the adopted Warwick Local Plan and its relevant policies?

- 2.1 As outlined through Matter 2 (paragraphs 5.1-5.3) the Local Plan includes an objective to address climate change (Warwick Local Plan Objective B) and a strategic policy (Warwick Local Plan Strategic Policy DS3) to deliver a low carbon economy and lifestyles. Local Plan policies SC0, BE1, HS1, CC2 and CC3 includes measures and criteria that are supportive of the transition to a low carbon future and ensuring developments are resilient to climate change.
- 2.2 The fabric first approach of NZC2(A), which sets specific energy efficiency targets, complements the policies within the Warwick Local Plan in support of adaption and resilience to climate change. There is no identified conflict.

3 Question 4.3

Is Policy NZC2(A) consistent with the adopted Warwick Local Plan and with national policy and is it soundly based?

- 3.1 Further to the answer above, the % improvements in fabric and energy efficiency required by NZC2(A) supports the existing Warwick Local Plan policy: CC1 through the addition of measurable % improvements to fabric efficiency. This measure in addition to criteria a), b), c) and d) under CC1 forms a rounded approach to ensuring that new development is resilient to, and adapts to climate change and is consistent with the format of the Local Plan policy.
- 3.2 It is therefore considered that NZC2(A) is consistent with existing policies of the Warwick Local Plan.
- 3.3 National Planning Policy Framework Paragraph 153 outlines that plans should take a proactive approach to mitigating and adapting to climate change, and paragraph 154b recognises that “*new development should be planned for in ways that... can help to reduce greenhouse gas emissions such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government’s policy for national technical standards*”.
- 3.4 The policy approach is based on national technical standards as a % improvement on building regulations.
- 3.5 The overarching policy NZC1 together with Policy NZC2(A) further enables the Local Plan to be able to deliver on the NPPF to deliver “*radical reductions in greenhouse gas emissions ... in line with the objectives and provisions of the Climate Change Act 2008*” (paragraph 152 and footnote 53), and the plan’s legal duty to mitigate climate change as per the Planning and Compulsory Purchase Act 2004 Section 19.
- 3.6 In conclusion, it is therefore considered that the policy NZC2(A) is consistent with the Warwick Local Plan, is soundly based and is consistent with national policy including the national requirement for Local Authorities to mitigate for climate change.

4 Question 4.4.

Does Policy NZC2(A) have sufficient flexibility built into its application to be effective?

- 4.1 Policy NZC2(A) includes flexibility and outlines that where full compliance with the % improvement of fabric and energy efficiency *“is not feasible or viable having regard to the type of development involved and its design, proposals must demonstrate through the energy statement that carbon reductions to the greatest extent feasible through energy efficiency measures have been considered and incorporated.”*
- 4.2 It is therefore considered that the policy includes sufficient flexibility to be effective for different development types that come forward.

5 Questions 4.5

How will Policy NZC2(A) contribute to the aims and objectives of the DPD and facilitate a faster transition to the greater use of low carbon energy sources?

- 5.1 Firstly, NZC2(A) delivers measurable targets to reduce carbon emissions from new development. As such it aligns with the aims of the DPD to minimise carbon emissions (DPD 4.1.1).
- 5.2 Further, and as set out above, improved fabric and other energy efficiency measures are critical to achieving net zero, reducing the total demand for energy. It seeks to reduce the significant cost of retrofitting to achieve net zero pursuant to DPD paragraph 4.1.2.
- 5.3 Improved fabric efficiency (insulation, better glazing and airtightness) makes buildings more compatible with low-carbon energy sources such as heat pumps, solar thermal and district heating, because these technologies tend to deliver heat at lower temperatures (compared to gas heating), therefore are most efficient and effective when paired with buildings that are able to hold onto that heat for longer periods. By contrast, buildings with poorer fabric lose their heat much more quickly and therefore typically require higher-temperature heat emitters like gas-fired radiators to maintain comfortable temperatures (or cause unacceptable running costs if switching to heat pumps, because the heat pump often cannot deliver its optimal efficiency in these conditions). This is one of several reasons why the roll-out of low carbon heat to existing homes has been far slower than desirable for the UK's net zero carbon transition. The improved fabric efficiency required by NZC2(A) therefore means that the new building stock will facilitate the immediate or future roll-out of low carbon heat technologies to those new buildings.
- 5.4 Secondly, the requirements of NZC2(A) are based on national technical standards (Building Regulations) and provide specific energy efficiency improvement targets in support of DPD objectives 4.2.1 and 4.2.2 in providing clear, practical and viable low carbon building standards.
- 5.5 Policy NZC2(A) sets clear targets for improvements to fabric and energy efficiency as the first stage of the energy hierarchy, and in achieving net zero carbon development under NZC1. The energy hierarchy illustrated in Figure 1 of the NZC DPD demonstrates that each step of the energy hierarchy, supports the next. Therefore, efficiency made under NZC2(A) supports the next stage of the policies – NZC2(B) which requires low or zero carbon energy sources and technology.
- 5.6 Put simply, optimising the efficiency of building fabric is the starting point for the whole net zero journey as it reduces the need and demand for the generation of energy through low



or zero carbon technologies, and improves compatibility with low- and zero-carbon heat technologies.

6 Questions 4.6

What impact will the requirements of Policy NZC2(A) have on development delivery, including housing?

- 6.1 As previously outlined in response to Matter 2, NZC1 aligns with The Future Homes Standard (FHS). Based on the evidence surrounding FHS, one way to achieve the % reduction of the policy is to moderately upgrade insulation values compared with existing standards, use more thermally efficient glazing and utilisation of a heat pump – this is the notional specification of the FHS.
- 6.2 However, NZC1 could be met with an alternate mix of efficiency measures and technologies that already exist in the industry today and are widely being used. There is no evidence that would robustly show an inadequate supply of these materials or technologies to meet the needs of the very small portion of the UK's development that will take place within Warwick District (even in combination with the share of development in the handful of other local planning areas that are considering similar requirements).
- 6.3 Response to Matter 3 outlines the viability of the DPD policies in detail. Furthermore, the DPD requires that carbon reductions to the greatest extent feasible are demonstrated through the energy statement and such allows for exceptional circumstances where full compliance with the policy is not feasible or viable.