Appendix 10- Schedule of proposed Modifications to the Published Warwick Net Zero Carbon Supplementary Planning Document

Schedule of Proposed Modifications to the Published Warwick Net Zero Carbon SPD (October 2023)

Warwick District Council

March 2024

The following format has been used to denote the modifications:

~~Strikethrough text~~ = text proposed for removal compared to the submission version
Underlined text = new text proposed compared to the submission version.

Such modifications have been set out in the third column of the following table with reasons for the changes set out in the final column.

Schedule of Proposed Modifications

This document comprises a schedule of proposed modifications to the Net Zero Carbon SPD arising from the public consultation.

Proposed Main Modifications

Submission Plan Reference	Proposed Main Modification	Reason for Modification
Page 10 Table 1	Further information column: Equivalent to the carbon reduction anticipated to be achieved by the Future Homes Standard (2021 specification), which is expected to become the new national minimum requirement from 2025.	To clarify which FHS consultation this information Is based upon.
Page 12 Paragraph 3.11	We note that it has already been proven feasible to ~~deliver~~ design homes that perform at this standard in Warwick District – see Gallows Hill case study. Commenced in 2020, this social housing project achieves a ≥77% improvement on Part L 2013 (which means it would meet or outperform the minimum on-site standard required by Policy NZC1). This was achieved through fabric improvements, air-source heat pumps, and solar panels.	To make it clear that homes were designed to this standard.
Page 14 Heading of Table 2	Table 2: Carbon and energy-saving measures categorised by their contribution to different parts of the NZC1 policy requirement by development type	To make the table clearer on how it relates to the policy requirements of NZC1.
Page 12 Case Study	**Key facts** • The homes were designed achieve a 100% reduction in carbon emissions compared to the target set by Part L 2013.	To make it clear that homes were designed to this standard.
Page 23 Figure 3 (text in white box)	Please also note that the higher solar gain from south facing windows is also a risk factor for overheating in highly insulated and airtight buildings; therefore it is important to ensure that designs are balanced so as to maximise the benefit reduced heating demand while also avoiding triggering the need for active cooling, whose energy consumption could negate the energy savings of the reduced heat demand. Overhead shading of south- and west-facing glazing, using deep insets or brise-soleil, can help avoid this problem by blocking summer sun (which comes at a high angle) while still allowing the building to receive winter sun (which comes at a low angle). The GHA has guidance on this matter.	Included hyperlink to signpost guidance on overheating.

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Page 25 Table 4	Rename the title of the last column: ~~Future Homes Standard Part L 2025 notional dwelling17 (RECOMMENDED TO MEET POLICY NZC2(A))~~ RECOMMENDED TO MEET POLICY NZC2(A) based on the Future Homes Standard Part L 2025 notional dwelling [footnote 17]	To clarify the recommended approach to achieve NZC2A, by employing the FHS (2021 consultation version).
Page 25 Paragraph 4.8	Policy NZC2(A)'s new dwelling requirement for a 10% improvement on the Part L 2021 TFEE (Target Fabric Energy Efficiency) is based on the expected fabric specification for the Future Homes Standard (Part L 2025) [add in footnote '17']. Thus it is anticipated that most new dwellings follow the FHS notional building fabric specification. This FHS notional building specification is replicated below as it was laid out in the Government's FHS Consultation Response.	To clarify which FHS consultation this information Is based upon. Table 4 on this page reiterates which version of the FHS is being used.
Page 26 Paragraph 4.12	Applicants are not required to build precisely to the ~~Future Homes~~ specification described above; considering that a lower performance in one building element (e.g., windows) may be able to be balanced out by better-than-notional performance in another (e.g. airtightness).	To simplify the language used on how applicants can approach achieving policy NZC2A.
Page 28 Paragraph 4.23	Justification should also be provided in the Energy Statement on the reasons for the selected measures in respect to their suitability and effectiveness for the type of development proposed and (where relevant) the site characteristics. Where full compliance is not feasible or viable having regard to the type of development involved, proposals must demonstrate through the energy statement that carbon reductions to the greatest extent feasible through energy efficiency measures have been considered and incorporated.	To ensure that where these measures are unfeasible applicants know what needs to be demonstrated.
Page 35 Paragraph 5.5	Tables 7–18 below provide a summary of the available types of renewable and low-carbon energy supply measures and their general suitability to different situations. Note, the following tables provide broad considerations. The application of each technology will need to take into account location specific contexts including, but not restricted to, heritage conservation, visual impact and locational requirements.	To respond to multiple comments on specific additions for renewable technologies

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Page 39 Table 9	**Suitability / applicability across schemes:** More suitable for larger homes where there is more demand for hot water but remain suitable in flatted schemes too, although issues could be apparent for space and location requirements. Combined with heat pump technology, hot water storage will be required to store hot water, this can be provided by a hot water cylinder. The size of this cylinder depends on the amount of hot water the house/building requires. If there are space or other constraints that limit the ability for hot water storage, there are hybrid heat pump systems available to produce heating and hot water.	To reflect comments regarding use of storage with heat pumps.
Page 40 Table 11	**How efficient is it?** ~~The technology is 100% efficient as each unit of electricity is directly converted into a unit of heat. However, direct electric heating is approximately three times less efficient than any type of heat pump and therefore, relatively, is highly inefficient when compared to alternative technologies.~~ Direct electric heating is roughly three times less efficient than any heat pump technology, making it relatively inefficient compared to alternative technologies in addition to potentially higher energy costs for occupants. This should be carefully considered for occupants who are vulnerable to high energy costs.	To make it clear that whilst direct electric is efficient in how it creates heat, it is less efficient than heat pumps.
Page 42 Table 13	**Location and space requirements** Space is a key consideration. The average system size is around 3.5kWp and this will typically take up around 20m2 roof area. An unshaded, south facing roof is ideal for maximum electrical output. East or West facing roofs could still be considered, but North facing roofs are not recommended. A system facing East or West will yield around 15-20% less energy than one facing directly South. Roof structures and features including dormer windows and rooflights should be carefully designed as to maximise the available space for PV panels.	To make it clear of roof constraints. To make it clear there are heritage considerations for both PV mounted on buildings and for standalone installations.

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	Things to be aware of (e.g. noise and visual impact) There are visual impacts to consider – rooftop solar PV installations may not be ~~possible~~ appropriate and heritage and conservation designations must be considered. For ground mounted solar installations, the historic environment, landscape impact and short- and long-range views will need to be considered. Generally, solar panels should not make noise, unless there is a structural defect or a problem with the installation. Solar Panels can provide a space for birds, in particular pigeons to nest under. Consideration should be given to netting or mesh to avoid unwanted nuisance.	
Page 44 Table 15	**Suitability/applicability across schemes** Can be installed in centralised energy centres as part of a district-wide strategy. Best suited to new build ~~schemes, with consideration of the technology from the outset.~~ non-residential schemes with consideration of the technology from the outset and where there is a hight heat and electricity demand.	To acknowledge specifics of CHP technology
Page 49 Paragraph 5.13	As per NZC2(B) of the Net Zero Carbon DPD, where DH networks are proposed, applications should be accompanied by an energy statement that includes an assessment of the advantages of a network system vs individual systems, an accurate assessment of distribution heat losses, a long term strategy for the sustainable supply of low carbon fuel and that the network has a credible route towards achieving zero carbon status. Consideration to the risk and mitigation of overheating is also required.	To clarify the risk to overheating.
Page 48 Paragraph 5.9	As per Warwick Local Plan Policy CC2-Planning for Renewable Energy and Low Carbon Generation (point ‘e’) where possible, homes and buildings should maximise appropriate opportunities to address the energy needs of neighbouring uses and should link to existing or planned local carbon district heat networks where this would result in lower carbon emissions than a reasonable on-site alternative.	To clarify that DHN should only be employed where they would deliver lower carbon emissions.

<table>
<tr><th>Submission Plan Reference</th><th>Proposed Main Modification</th><th>Reason for Modification</th></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Page 51
Paragraph 6.2</td><td>Carbon offsetting should only be used as a last resort, and only when an applicant has maximised on site carbon reductions through stages 1 and 2 of the energy hierarchy. The Council will only accept offsetting where it is demonstrated that measures under NZC2(A) and NZC2(B) are not feasible having regard to the <u>design and</u> type of development involved. This should be demonstrated within the Energy Statement and justification provided where Policies NZC2(A), NZC2(B) and on-site net zero regulated carbon is not achieved.</td><td>To align with the wording on NZC2C.</td></tr>
<tr><td>Page 52
Paragraph 6.4</td><td>The Energy Pro-Forma (Annex 1) includes the calculation of any residual emissions and the total monetary value of carbon offsetting required for a development. <u>The Pro-forma includes the following options for calculating the monetary value of offsetting:</u>

• <u>Static offset: applying the BEIS carbon value over the 30-year period.</u>
• <u>Dynamic Offset: incorporating the BEIS projections for grid decarbonisation over the 30-year period – this approach is only recommended for wholly electric schemes.</u>

These funds represent a contribution to the Council’s Carbon Offsetting Scheme which would be secured via a Section 106 agreement and paid before the occupation of a development.</td><td>To illustrate static and dynamic offsetting.</td></tr>
<tr><td>Page 55
Table 19</td><td><u>Replace entire table with</u>:

<table><tr><td>Threshold</td><td>Requirement – Outline applications</td><td>Requirement – Reserved Matters / Detailed applications</td><td>To be submitted</td></tr><tr><td>New major development</td><td>Set out the embodied carbon strategy for the development, where relevant setting out methodology and</td><td>Demonstration of how embodied carbon has been considered and reduced where possible</td><td>Energy Statement</td></tr></table></td><td>To clarify what is provided at outline or reserved matters stages.</td></tr>
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Submission Plan Reference	Proposed Main Modification				Reason for Modification
		targets to be considered at the detailed design stage.			
	Proposals for development of ≥50 new dwellings and/or ≥5,000sqm	Set out the embodied carbon strategy for the development, setting out methodology and targets to be considered at the detailed design stage. Provide an estimate of the embodied carbon of the proposed development utilising the RICS Whole Life Carbon Assessment methodology.	Demonstration of how embodied carbon has been accounted for and reduced where possible.	Whole-life embodied	
Page 64 Paragraph 8.3	Policy NZC4 <u>recognises the value of embodied carbon in existing buildings and</u> encourages an approach to existing buildings that pursues energy efficiency measures, low carbon energy supply, and renewable energy generation, relevant to the scope and scale of the proposed development/redevelopment <u>to ensure that buildings contribute to lowering carbon emissions over the course of their lifespan.</u>				To clarify the importance of embodied carbon in existing buildings as a way of reducing future carbon emissions from existing buildings.
Page 68 Paragraph 8.21	PAS 2035 is a best practice standardised process for retrofitting dwellings for energy efficiency in the UK. <u>PAS 2038 is the equivalent process for non-domestic buildings</u>. ~~It~~ They allow~~s~~ retrofits to be Trustmark certified, providing security and reducing risks for building owners. Using PAS 2035, a risk appraisal can be carried out to demonstrate how retrofit measures have been carefully designed to minimise overheating risk (from increased airtightness) and minimise				Include PAS standard for non-domestic buildings.

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	health risks to occupants (including condensation, mould and improper ventilation).	
Page 74 Glossary	INSERT: Definition of performance gap: There is significant evidence that suggests that buildings do not perform as well when they are completed as was anticipated when they were being designed. The difference between anticipated and actual energy performance is known as the performance gap.	To provide clarity on what the performance gap is
Page 75 Glossary	Publicly Available Specification 2035 & 2038 PAS 2038	To align with other proposed modifications
Page 77	Part 1 of this Energy Pro-Forma must be completed for all applications as set out above to demonstrate compliance with policy requirements of NZC1, NZC2A-C and NZC3. Alternatively, if Passivhaus accreditation is being sought applicants will need to submit PHPP calculations to demonstrate compliance with NZC1. **For residential development please complete 1A, for non-domestic development please complete 1B.** For developments where repeated house typologies are being used, or where multiple non-domestic buildings are being proposed, the applicant can apply an aggregated average of carbon emissions across these typologies or building types. The tables below indicate where aggregated data should be input if being used, otherwise please complete each table according to the proposed dwelling(s) or building(s) being proposed. Annex: Energy Pro-Forma **A separate Energy Pro-Forma has been prepared for Existing Buildings (householder, extensions and conversions) to demonstrate compliance with NZC4. This is set out in Part 2.**	To include the alternate route for Passivhaus / PHPP compliance.