SILCOCK DAWSON & PARTNERS

DfE Technical Annex: Sustainability Brief

A commentary by Silcock Dawson & Partners

Version 5 of the DfE Technical Annex has been issued for Contractor delivery, consultation and discussion. We have included below are some salient points which may affect future submissions when this Technical Annex is required.

The Technical Annex sets out to address the Government's own programme of achieving Carbon Neutrality in new buildings by 2050. This document must also be read in conjunction with the full suite of current Output Specification documents and the SSB (School Specific Brief) for individual projects.

It is also worth considering Local Authority planning requirements when planning projects; a number of local authorities are updating their sustainability plans, and in some cases they are not allowing the use of fossil fuels for heating and hot water.

The document also requires all new schools are to be net zero carbon in operation, however, this isn't always achievable, and the document does recognise this. It then requires the designers to state over the life time of the building how carbon neutrality may be achieved.

There is also a requirement for the whole roof to be a green roof and to have maximum PV array assigned, regardless of local planning requirements, and the kWp to be stated.

Buildings must be designed for current and future generations, including adaption measures in response to the effects of climate change.

Calculation models will need to be changed to accommodate the following:

- Overheating for future proofing is now to have 2 sets of weather data to comply with: DSY 1, 2080, L50, and DSY1, 2080, H50
- Existing buildings where part of the development are to demonstrate how they will achieve overheating compliance using DSY 1, 2080, L50.
- New Building energy targets are to be:

  Heating, reduction by 35%
  Hot water, reduction by 5%
  Internal Lighting, fans and pumps, cooling, reduction by 8%
  Lifts, building related services, external lighting, reduction by 8%
  Small power, server room, catering and ICT, reduction by 10%

- New minimum U values:

Roof	0.12 W/m^{2}k
Wall	0.15 W/m^{2}k
Ground Floor	0.12 W/m^{2}k
Windows	1.1 W/m^{2}k
Air permeability	3.0 m^3/hr@50pa

School buildings should be designed to achieve the following energy use targets called Overall Energy Use Intensity (EUI) and the following targets are to be achieved:

Primary	64kWh/m^2
Secondary	74kWh/m^2

To achieve these values the following considerations will need to be addressed at the feasibility stage of all projects:

- Designs must follow the Passive before Active design measures and these should be stated in the feasibility report.
- Use of external sun shading to windows may be necessary so that solar gain is reduced but these devises should not affect internal day lighting requirements which remain unaltered by this document
- We will need to demonstrate that adequate floor height has been allowed to take account of volume and mass in offsetting summer time over heating requirements
- Use of cross ventilation during summer time occupation needs to be considered
- Use of off-site construction techniques to improve air permeability and U values, e.g. SIP's etc.

New school buildings shall also report on **Embodied Carbon in Construction** at RIBA stages 4 and 6; however no targets will be applied at this stage.

The "Nett Carbon Approach" is to be a whole site approach, and must include landscaping / vegetation, SUDs and External Lighting in its calculation.

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