**Major Non-Residential Development**

To be completed for major non-residential development

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| **Table 3.1 - Major New Build Non-Residential Development (Policy SCR7)** | | |
| **Required for:**  · Full applications or outline/reserved matters applications for Appearance  · To discharge the condition prior to occupation | | |
| **Please tick:**  ☐ The proposal, and the figures in the table, are for a single building | | |
| A | **TER baseline emissions** | kgCO2/m2/annum |
| B | **BER emissions after energy efficiency measures** | kgCO2/m2/annum |
| C | **% CO2 reduction from energy efficiency measures only (A-B)/A\*100** | % |
| D | **BER emissions after renewables are added to the energy efficiency measures** | kgCO2/m2/annum |
| E | **% CO2 reduction from renewables only** | % |
| F | **CO2 savings from all measures** | kgCO2/m2/annum |
| G | **% CO2 reduction from all measures** | % |
| **H** | **Residual carbon not met by energy efficiency or renewable energy measures to be offset** | tCO2 |
| I | **Financial Contribution (according to formula set out in the Planning Obligations SPD) (£)** | £ |
| ☐ Please tick to confirm that the two sets of design stage or post-completion Part L SAP/SBEM summary and input documents are attached. This is required for registration of the application:  1. The reduction in CO2 from energy efficiency measures only (C)  2. The overall reduction once renewables are added (G)  ☐ For discharge applications, please tick to confirm that the MCS Certificate is attached showing that any renewable technologies cited in this table are installed and operational (for installations of up to 50kW). | | |
| Name and registration number of independent accredited assessor conducting the assessment: *[Insert text here]* | | |

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| **Table 3.2** - **Proposals for more than one building type** | | | | | | | |
| Required for developments with more than one type of building where compliance is to be proposed for the whole site, for:  · Full applications or outline/reserved matters applications for Appearance  · To discharge the condition prior to occupation | | | | | | | |
| **Representative Buildings:** Please note below a representation of each building type | | | | | | | |
| **Building** | **Building type represented** | **Number of buildings of this type** | **TER** | **BER** | **% Reduction**  **(specify % reduction individually from energy efficiency measures and renewable energy measures)** | **Residual carbon not met by energy efficiency or renewable energy measures to be offset** | **Financial Contribution (according to formula set out in the Planning Obligations SPD) (£)** |
| 1. *[insert text and add rows as needed]* |  |  | kgCO2/m2/annum | kgCO2/m2/annum | % | tCO2 | £ |
| ☐ Please tick to confirm that the two sets of design stage or post-completion Part L SAP/SBEM summary and input documents are attached. This is required for registration of the application:  1. The reduction in CO2 from energy efficiency measures only  2. The overall reduction once renewables are added  ☐ For discharge applications, please tick to confirm that the MCS Certificate is attached showing that any renewable technologies cited in this table are installed and operational (for installations of up to 50kW). | | | | | | | |
| Name and registration number of independent accredited assessor conducting the assessment: *[Insert text here]* | | | | | | | |

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| **Table 5 – Sustainable Construction Strategy** | | | | |
| All required sections are to be completed in 500 words or less per section, although further detail may be requested. A summary is to be provided of the approach, not simply a reference to other documents, although additional detail should be signposted via references to named documents and drawings. Outline applications should state if reserved matters applications will contain further detail. | | | | |
| 1. **Passive Design** e.g. addressing overheating, building form, orientation and shading, including orientation of roofs to maximise solar energy potential. Please note - this is an important consideration for Layout, so applications covering Layout should provide a full explanation of the approach. | | | | |
| *[Insert text here]* | | | | |
| 1. **Renewable and Low Carbon Energy** e.g.solar PV, battery storage, heat pumps, solar thermal and heat networks. Please cite any drawings of renewable/low carbon technology. | | | | |
| *[Insert text here]* | | | | |
| 1. **Total Renewable Energy on the Whole Proposal** | | | | |
| Technology type (e.g. PV) | Description: Number and location of installations | Total site-wide capacity (kWp) | Estimated total annual generation (kWh) | Total CO2 saving from this technology (kgCO2) |
| *[insert text and add rows as needed]* |  |  |  |  |
| 1. **Energy Efficiency** e.g. appliances, low energy fixtures, state U-values of building elements. | | | | |
| *[Insert text here]* | | | | |
| 1. **Heating, Cooling and Hot Water** e.g. heat pumps, responsive heating controls, underfloor heating, mechanical ventilation with heat recovery, waste water heat recovery. | | | | |
| *[Insert text here]* | | | | |
| 1. **Ventilation and Indoor Air Quality** e.g. airtightness performance, natural or mechanical ventilation, windows. Note how the building will be ventilated in winter other than by opening windows if a high airtightness target is proposed. | | | | |
| *[Insert text here]* | | | | |
| 1. **Thermal Bridging Reduction:** Please list in further detail the ways in which thermal bridging will be minimised. | | | | |
| *[Insert text here]* | | | | |
| 1. **Energy Performance Gap:** Please note how the Performance Gap will be addressed both during and after construction 2. Construction management practices 3. Aftercare and post-occupation measures to ensure correct commissioning (including seasonal commissioning) and thorough handover 4. Post-occupation performance monitoring to record whether targets are met in-use. | | | | |
| *[Insert text here]* | | | | |
| 1. **Smart Infrastructure** e.g. smart meters and appliances, energy storage, electric vehicle charging, building management systems. | | | | |
| *[Insert text here]* | | | | |
| 1. **Waste** e.g. re-use of materials, recycling, on-site waste etc. | | | | |
| *[Insert text here]* | | | | |
| 1. **Water** e.g. SuDS, surface water run-off, water storage, efficient water use and rainwater harvesting. | | | | |
| *[Insert text here]* | | | | |

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| **Table 6 – Embodied Carbon Calculation** | | | | | |
|  | | *Global Warming Potential (tCO2e)* | | | **Total A1 – A5** (kgCO2e/m2) |
| Product Stage | Construction Stage | |
| ***(BCIS SFCA Classification) Building Element*** | | **A1 – A3** | **A4** | **A5** |
| Mandatory | **1.1 Substructure** | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **2. Superstructure**   * 2.1 Frame * 2.2 Upper Floors * 2.3 Roof * 2.4 Stairs and Ramps | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **2. Superstructure**   * 2.5 External Walls * 2.6 Windows and External Doors | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **2. Superstructure**   * 2.7 Internal Walls and Partitions * 2.8 Internal Doors | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **3. Finishes**   * 3.1 Wall Finishes * 3.2 Floor Finishes * 3.3 Ceiling Finishes | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| Optional | **4. Fittings, furnishing and equipment**   * 4.1 Fittings, Furnishings & Equipment | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **5. MEP**   * 5.1 to 5.14 Services | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **6. Prefabricated Buildings and Building Units**   * 6.1 Prefabricated Buildings and Building Units | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **7. Work to Existing Building**   * 7.1 Minor Demolition and Alteration Works | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
| **8. External Works**   * 8.1 Site Preparation Works * 8.2 Roads, Paths, Pavings and Surfacings * 8.3 Soft Landscaping, Planting and Irrigation Systems * 8.4 Fencing, Railings and Walls * 8.5 External fixtures * 8.6 External drainage * 8.7 External Services * 8.8 Minor Building Works and Ancillary Buildings | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* | *[enter numerical value, no decimal places]* |
|  | **Total** |  |  |  |  |

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| **Table 7 – Embodied Carbon Strategy**  *[Input is intended to provide clarity and context for the numbers provided above, and to support BANES in improving these requirements]* |
| 1. **Embodied Carbon Overview** 2. Brief project/building description 3. Software tool used 4. EPDs or Embodied Carbon Databases used [and links if possible] 5. Basis of design document (carbon factors used required) – can be inserted as appendix |
| *[Insert text here]* |
| 1. **Description of Third-Party Verification Approach** |
| *[Insert text here]* |
| 1. **Approach to Reducing Pre-Construction Demolition Emissions** (estimate value) |
| *[Insert text here]* |
| 1. **Percentage of Building Consisting of Existing, Reuse, or Repurposed Materials** e.g. facades, structures etc. |
| *[Insert text here]* |
| 1. **Overview of Primary Emissions Reduction Measures** e.g. design, low-carbon materials, re-use, reducing waste etc. |
| *[Insert text here]* |
| 1. **Remaining Scope to Further Reduce Embodied Carbon** |
| *[Insert text here]* |
| 1. **Approach to Ensure Constructed Building Achieves Estimated Embodied Carbon** |
| *[Insert text here]* |
| **SECTIONS 8 – 10 ONLY REQUIRED FOR POST-CONSTRUCTION STAGE SUBMISSION** |
| 1. **List of Updated Information from the Planning Application Stage Submission** (e.g. assumptions, carbon factors, transportation modes, waste etc.) |
| *[Insert text here]* |
| 1. **Comparison of the Post-Construction Calculation Results Against Planning Application Stage Results** (including an explanation where differences are apparent between submissions) |
| *[Insert text here]* |
| 1. **Summary of Lessons Learnt** 2. What worked well? 3. What could be improved next time? 4. Was engagement with the client effective and carried out at an early stage? 5. What made the largest positive/negative impact to emissions reductions? |
| *[Insert text here]* |

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| **Table 11** - **Non-Compliance** |
| We expect development to be able to comply with the policy requirements. If non-compliance with any of the requirements is proposed on the grounds of viability or technical feasibility, a full open-book viability test or technical rationale is likely to be required and the applicant will be expected to pay the cost for an independent review to determine its validity.    **In the case of proposed non-compliance, the Checklist is still to be completed in full, making it clear which sections are non-complaint.** |
| **Please tick here if non-compliance with any of the policies above is proposed** ☐    Please summarise below the policies for which non-compliance is proposed and summarise the rationale for non-compliance and reference the background reports. |
| *[Insert text here]* |
| ☐ If non-compliant on cost/viability grounds: An open-book viability test is attached  ☐ If non-compliant on technical feasibility: An open-book technical rationale is attached |

**Overheating**

The following overheating methodologies and guidance are not a policy requirement. However, exemplary residential and non-residential developments are strongly recommended and encouraged to complete the overheating assessments and tables as follows.

|  |
| --- |
| **Table 9.1 - Overheating Mitigation Strategy** |
| Please describe how the Cooling Hierarchy has been followed. All sections are to be completed giving a summary of the response to the issue and cross-referencing where further detail can be found, in 500 words or less per section. |
| **Minimising internal heat generation through energy efficient design:** For example, passive design that minimises solar gain on south facing facades in buildings likely to overheat e.g. offices; heat distribution infrastructure within buildings should be designed to minimise pipe lengths, particularly lateral pipework in corridors of apartment blocks, and adopting pipe configurations which minimise heat loss e.g. twin pipes. |
| *[Insert text here]* |
| **Reducing the amount of heat entering the building in summer:** For example, through use of carefully designed shading measures, including balconies, louvres, internal or external blinds, shutters, careful planting of trees and vegetation to provide shade. Please also state the glazing ratios and explanation of mitigation of overheating/ daylight if the overall ratio is greater than 20% or smaller than 15%. |
| *[Insert text here]* |
| **Use of thermal mass and high ceilings to manage the heat within the building:** When carefully designed, exposed thermal mass (dense materials that can absorb and release heat slowly) can help to absorb excess heat within the building. Please cite floor to ceiling heights. |
| *[Insert text here]* |
| **Passive ventilation:** For example, through the use of openable windows, cross-ventilation, dual aspect units, designing in the ‘stack effect’ |
| *[Insert text here]* |
| **Mechanical ventilation:** Mechanical ventilation can be used to make use of ‘free cooling’ where the outside air temperature is below that in the building during summer months. If Mechanical Ventilation with Heat Recovery (MVHR) is used, please confirm that there is a by-pass on the heat recovery system for summer mode operation. |
| *[Insert text here]* |

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| **Table 9.3** - **Overheating in Non-Residential Development, CIBSE TM52** | | | | | | | | | |
| Zone Name (E.g. stairwell) | Room use (e.g. circulation space) | **Criterion 1:** Hours of exceedance—Maximum number of hours internal temperature above outside temperature | | | | | **Criterion 2:** Daily weighted exceedance | **Criterion 3:** Upper limit temperature | **Results**  To meet the benchmark, 2 out of 3 criteria to be met for the current climate |
| **A.** Occupied Hours – will depend on use type | **B.** Maximum number of hours of exceedance (3% occupied hours) | | **C.** Calculated no. hours exceeding comfort range - **Not to exceed “B”** | | **D.** Calculated peak daily weighted exceedance –**to be under 6 hours** | **E.** Calculated no. hours exceeding absolute limit – **to be zero hours** |
| **CURRENT CLIMATE (CIBSE DSY1):** Results expressed in hours | | | | | | | | | |
| [Add rows below] |  |  |  |  | | |  |  | **Pass** ☐ |
| **FUTURE CLIMATE:** Results expressed in hours | | | | | | | | | |
| [Add rows below] |  |  |  |  | | |  |  | **Pass** ☐ |
| ☐ Please tick to verify that modelling cover sheets for “current climate” and “future climate” assessments are attached summarising performance and that a written report for TM52 has been produced in line with the CIBSE methodology. This is required for registration of the application | | | | | | | | | |
| ☐ For accommodation with vulnerable occupants such as babies, elderly or disabled people, tick to verify that the Type 1 occupancy parameters in CIBSE TM52 been used | | | | | | | | | |
| Which building/s were selected to model and why? Please reference the relevant plans | | | | | | *[Insert text here]* | | | |
| Which part/s of the building/s were selected to model and why? Please reference the relevant drawings | | | | | | *[Insert text here]* | | | |
| Modelling inputs including the climate datasets, locations, software used and emissions scenario | | | | | | *[Insert text here]* | | | |
| If the standard has not been met for the future climate scenario, please outline the future proofing strategy; how the current design enables future measures | | | | | | *[Insert text here]* | | | |
| Name and company of independent assessor conducting the assessment: [Insert text here] | | | | | | | | | |

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| **Table 9.4 - Active Cooling** | |
| Please describe below why active cooling would result in lower CO2 emissions whilst meeting the CIBSE TM52 requirement than alternatives and outline the active cooling strategy. Include the type of plant and efficiencies, and if renewable cooling sources such as ground or river water cooling are to be used. | |
| *[Insert text here]* | |
| Please insert below the figures from the BRUKL “HVAC Systems Performance” table | Area weighted average building cooling demand (MJ/m2) |
| Actual (must be lower than the notional value): | *[Insert text here]* |
| Notional: | *[Insert text here]* |
| ☐ Part L output section containing the “HVAC Systems Performance” table is attached. This is required for registration of the application. | |