Bath & North East Somerset Council

BATH AND NORTH EAST SOMERSET

SUSTAINABLE CONSTRUCTION CHECKLIST SUPPLEMENTARY PLANNING DOCUMENT

CONSULTATION DRAFT SPRING 2018

Contents

PART 1: GUIDANCE

The Guidance below sets out the rationale for the Sustainable Construction Checklist Supplementary Planning Document (SCC SPD) and how the Checklist in Part 2 should be completed.

Background

Environmental sustainability is a key priority for Bath & North East Somerset Council. Within this, tackling climate change is identified in the Council's Corporate Strategy 2016-2020 as a significant challenge. Our Environmental Sustainability and Climate Change Strategy[1] sets a CO_2 reduction target for the area of 45% by 2029, in line with the government's target to cut national emissions 80% by 2050.

To meet this target, development must minimise its' contribution to climate change. Development must also respond to the climatic changes that will take place within the lifetime of the development. To facilitate this, tackling climate change is a cross-cutting objective within the Placemaking Plan.

Case Study: The Council aims to exemplify sustainable construction in our own development projects, for example with the Keynsham Civic Centre, pictured below and on the cover. Our experience has been that mitigating CO_2 emissions does not have to cost more; by using a fabric-first approach and good design, the Civic Centre was built to achieve a Display Energy Certificate rating of "A" at no capital cost uplift. This has resulted in annual energy bills of c£7,000yr compared to c£180,000 in our old office. The focus on sustainable construction has also resulted in a healthy and comfortable environment for our staff to work and the receipt of many awards.

[1] Bath and North East Somerset Environmental Sustainability and Climate Change Strategy 2016-2020
http://www.bathnes.gov.uk/sites/default/files/siteimages/Environment/Sustainability/new_structure_esp_strat_version_9_-_web.pdf

Scope, Definitions and Approach

Climate Change Policies: The SPD address the key policies in the "Responding to Climate Change" section of the Placemaking Plan[2]. Please review this section in full for complete policy wording and further policies that are not covered by the SPD. Please also refer to our existing Sustainable Construction and Retrofitting SPD[3] which contains detailed guidance for the building types in our district, including historic buildings. Other aspects of sustainability such as transport, drainage and ecology are handled separately and are outside the scope of this SPD.

Which proposals need to complete the checklist?

- All new build proposals
- All proposals for works on existing buildings that have 5 or more dwellings or 500m^2 or more of floor space to be created.

Definitions of development size:

- Large Scale development: 50 dwellings + or 5000m^2 + of floor space to be created.
- Major development: 10 + dwellings or 1000m^2 + of floor space.
- Medium development: 5-9 dwellings or 500m^2 to 999m^2 of floor space.
- Minor development: 1-4 dwellings or up to 499m^2 floor space.

Two stage process: The Checklist and accompanying documentation is to be submitted where required (1) at the application stage **in order to register an application** and (2) in order to discharge planning conditions.

Application Stages: The checklist is required in order to register all outline, full or reserved matters planning applications, except reserved matters applications for Access. Please see guidance below for which sections to submit by when. We also advise that the checklist is submitted with pre-application proposals.

Change of Use: For change of use proposals, policies will be applied to the proposed use. For example, if a non-residential building is being changed into dwellings, the proposal is to comply with the requirements for dwellings.

Further documentation: The checklist should accompany documents that provide further detail, such as Sustainability Statements or Energy Strategies. Please reference where further information and drawings can be found.

Checklist Review: The checklist may be periodically updated to reflect changes in legislation, policy and practice.

Queries: Please call Planning Services on 01225 394041 or email development_management@bathnes.gov.uk.

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[2] http://www.bathnes.gov.uk/services/planning-and-building-control/planning-policy/placemaking-plan
[3] http://www.bathnes.gov.uk/services/planning-and-building-control/planning-policy/supplementary-planning-documents-spds/sustain

SECTION 1: THE PROPOSAL

Table 1.1: THE PROPOSAL: Please input details of the proposal, stating the type and size of development and whether it is Large Scale, Major, Medium or Minor. Also note the type of application – if it is an Outline application please state which Matters have been reserved, or if it is a Reserved Matters application, please state which Matter/s the application covers.

SECTION 2: ENERGY EFFICIENCY & RENEWABLE ENERGY

1. Placemaking Plan Energy Policies

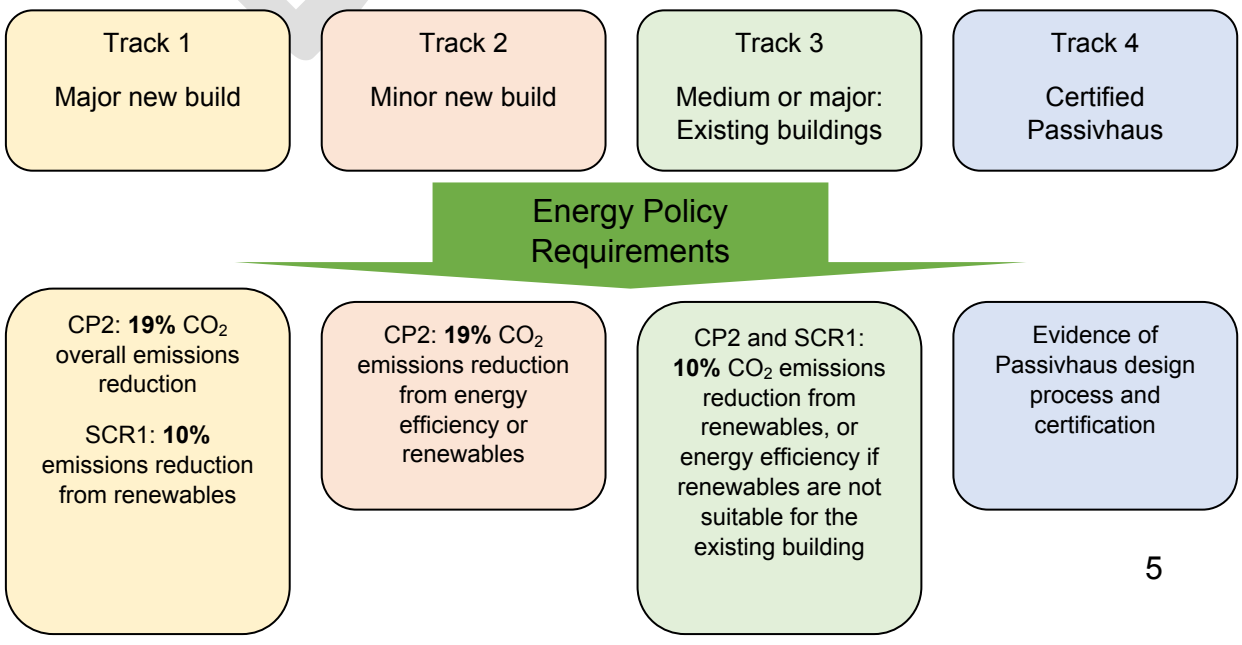
This SPD sets out the compliance requirements for the two key energy policies, excerpted below:

***Core Policy 2 (CP2): Sustainable Construction**: "All planning applications should include evidence that the standards below will be addressed...Maximising energy efficiency and integrating the use of renewable and low-carbon energy"*

This SPD sets new benchmarks for demonstrating that energy efficiency has been "maximised" as required by CP2.

***Sustainable Construction Policy 1 (SCR1): On Site Renewable Energy:** "Developers of Major proposals above a threshold of 1,000 square metres or 10 dwellings, excluding Industrial B2 and B8 uses, will be required to provide sufficient renewable energy generation to reduce carbon emissions from anticipated (regulated) energy use in the building by at least 10%".*

All proposals need to respond to CP2 and major proposals will also need to respond to SCR1, as set out in the graphic below:



2. Completing the Summary Tables 2.1 and 2.2

Table 2.1: Outline energy strategy: All Outline, Full or Reserved Matters applications are to complete this table, since even at Outline stage some aspects of energy performance e.g. form and orientation may be addressed. For Outline applications where little detail is known, please state which Reserved Matters applications will address the issues.

Each section is to contain 500 words or less, summarising the approach and not simply cross-referencing other documents (although citations to other documents are to be made to demonstrate that sustainability is integrated into the design). If the proposal is not taking one of the approaches listed, please state why.

Table 2.2: Summary of requirements for Energy Tracks: This table is to be completed by all applicants, to clarify for applicants and officers what will be submitted and by when.

Please note the approach to compliance for two stage Outline/ Reserved Matters applications. Where Appearance is being applied for, we assume that sufficient detail is known for a meaningful assessment of energy performance. So, if Appearance is not a Reserved Matter, Outline applications will be expected to attach full compliance documentation. If Appearance is Reserved, the documentation should accompany the Reserved Matters application for Appearance.

3. Completing Tables 2.3, 2.4 and 2.5: General Points

3.1. **Building Regulations Assessments:** Policies CP2 and SCR1 address "regulated" emissions – those covered by Part L of the Building Regulations 2013[4]. Applicants are to demonstrate policy compliance through the energy assessment methodology that is already required for Part L compliance. Energy Tables 2.3 and 2.5 require figures from these assessments.

3.2. **Design stage and post-completion assessments documents needed:** In line with the two-stage compliance approach, energy Tables are to be submitted at design stage and again post completion to discharge the condition. Energy tables are to be accompanied by the **summary page** from the design-stage Part L assessment/s and post-completion assessment to enable verification of the figures quoted in the Table.

3.3. **A qualified energy assessor** is to model building performance using a thermal modelling tool approved for Part L compliance assessments e.g. the Standard Assessment Procedure (SAP) for residential development or the

[4] If Part L, or the methodology used to calculate compliance, is updated, the compliance requirement for this policy may also be updated

Simplified Building Energy Model (SBEM) model for non-residential development.

3.4. This approach means that applicants may need a Part L assessment earlier in the design process than previously. This is to ensure the design maximises energy efficiency gains from "passive design[5]" from elements that are also key considerations for a planning proposal, namely form, glazing and orientation. If these elements are not optimised at the earliest design stage, it becomes a lot harder and more expensive to achieve the energy performance required by the policies.

3.5. **Multi- building developments:** If the proposal contains a number of buildings types applicants are expected to:

a. Demonstrate that a **representative building** from each building type is policy compliant, since the approach may be different for each type. For example, if a proposal contains large dwellings and small dwellings, non-residential buildings and works to existing buildings, a separate energy assessment and Table is required for a representative of each.

b. Confirm in the Table that the **site as a whole** will be policy compliant, explaining if performance is to be balanced across the site, e.g. if some buildings exceed the policy in order to offset lower performance in other buildings.

During the pre-application process, planning officers can advise on the number of assessments required. Please copy and paste the required number of tables into the same Checklist document so they can be viewed together. Scheme drawings should note which buildings have been selected. If queries arise, the Council may require assessments for other buildings on the scheme.

3.6. **Multiple-unit and mixed use buildings:** If a building contains more than one unit e.g. subdivided offices, a terrace or a block of flats, Block Compliance with the policy is to be demonstrated, as would be required by the Building Regulations, e.g. one assessment is to be conducted for the whole building. The same applies to mixed use buildings.

3.7. **Ventilation and Overheating:** Improving energy performance can, and should, result in buildings being more healthy and comfortable for the occupants. However, this is only possible if energy performance is considered

[5] Passive design maximises the use of 'natural' sources of heating, cooling and ventilation to create comfortable conditions inside buildings. This is as opposed to 'active' design; using active building services systems to create comfortable conditions, such as boilers and chillers, mechanical ventilation, electric lighting, renewable energy and so on.

in conjunction with other factors, in particular overheating (Section 5) and ventilation to avoid unintended consequences.

Track 1: Major new build developments - Tables 2.3 and 2.4

3.8. For Track 1, policies CP2 and SCR1 apply. The interaction of these policies is described below and in the chart overleaf.

3.9. **CP2: A 19% reduction in regulated CO_2 emissions:** The benchmark for demonstrating that energy efficiency has been "maximised", as required by CP2, is a 19% reduction in regulated emissions. This is the equivalent of the energy requirement in the Code for Sustainable Homes Level 4.

3.10. **SCR1: 10% emissions reduction through renewables:** After energy efficiency measures have been accounted for, a further 10% emissions reduction is to be achieved through renewables. By using a baseline which takes energy efficiency measures into account, energy efficient schemes will have a reduced requirement for renewables to comply with SCR1.

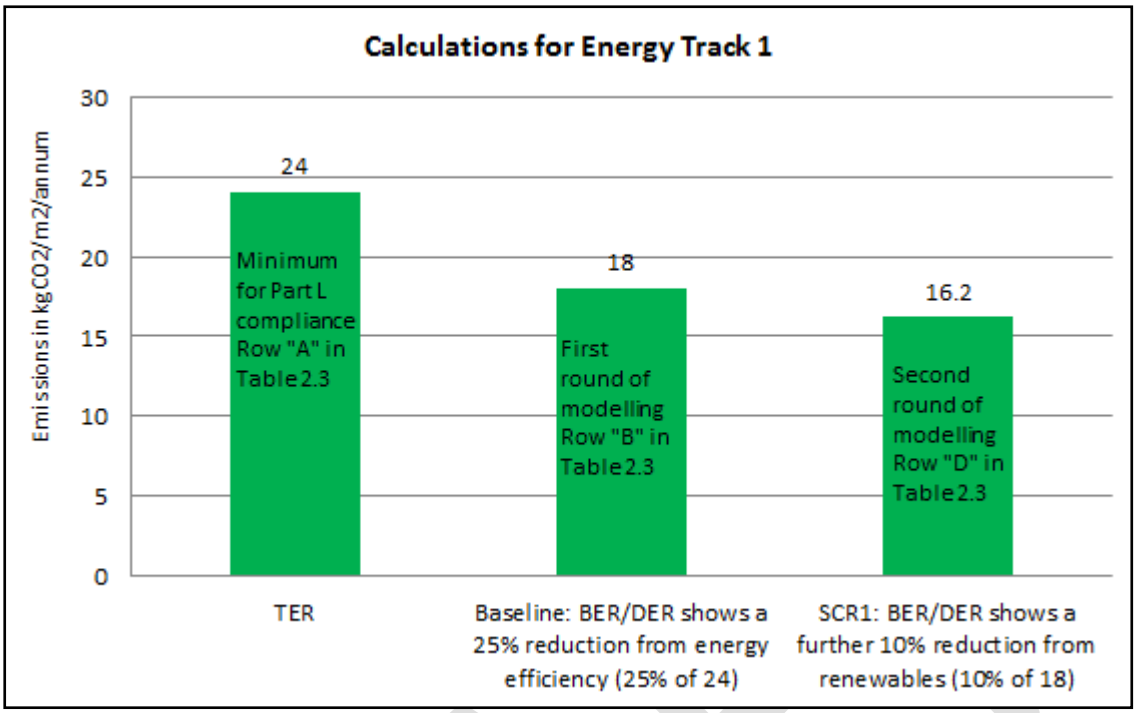
3.11. The remaining CO_2 reduction required for the overall 19% reduction can be achieved through renewables or energy efficiency measures, including mechanical ventilation and heat recovery (MVHR) or low carbon energy such as gas-fired Combined Heat and Power (CHP).

3.12. **Table 2.3:** Since compliance with two policies; CP2 and SCR1 is required, two rounds of energy assessment are needed for Table 2.3:

a. **First round**: Calculate CO_2 reductions from energy efficiency measures, starting from a baseline[6] of the Target Emissions Rate (TER)[7] to produce a Dwelling Emissions Rate (DER) or Building Emissions Rate (BER)[8] figure to use as the baseline for the second round of calculation.

b. **Second round:** Calculate the contribution of renewables by adding the renewable energy measures to the model. This should be at least 10% and the overall emissions should be 19% or more less than the TER.

[6] When determining the baseline, it should be assumed that the heating would be provided by gas boilers and that any active cooling would be provided by electrically powered equipment.
[7] The target CO_2 emission rate (TER) sets a minimum allowable standard for the energy performance of a building to comply with Part L of the Building Regulations and is defined by the annual CO_2 emissions of a notional building of same type, size and shape to the proposed building. TER is expressed in annual kg of CO_2 per m^2.
[8] The DER and BER is a calculation of the CO_2 emissions for the building as actually specified. For more information, see the Designing Buildings Wiki.



3.13. **Table 2.4:** This is to be completed prior to occupation to discharge the planning condition, describing the renewables used and verifying that they will achieve the 10% emissions reduction. Please attach an MCS certificate for installations of up to 50kW (sample is included in the Appendix). Details should be included so that the figures can be checked against the MCS certificate.

Track 2: Minor new build development - Table 2.5

3.14. Minor development is covered by Policy CP2 but not SCR1 so applicants can choose whether to use energy efficiency, low carbon energy or renewable energy to meet the requirement.

3.15. **CP2: A 19% reduction in regulated CO_2 emissions:** The benchmark for demonstrating that energy efficiency has been "maximised" as required by CP2 is a 19% reduction in regulated emissions. This is the equivalent of the energy requirement in the Code for Sustainable Homes (CfSH) Level 4.

3.16. **Table 2.5:** One energy assessment is required to demonstrate the 19% emissions reduction. A baseline of the Target Emissions Rate (TER) is to be used to produce a Dwelling Emissions Rate (DER) or Building Emissions Rate (BER) figure which is 19% lower than the TER.

Track 3: Major and medium development on existing buildings - Table 2.5

3.17. Track 3 applies to proposals of a medium scale or above; 5 + dwellings or 500m^2 +. Major developments also need to respond to SCR1, this is set out below.

3.18. Existing buildings may have fewer options for improving energy performance and measures should be sensitive to the existing building. To reflect this, the requirements are lower:

a. **Lower benchmark for CP2:** The benchmark for CP2 compliance on medium scale development is lower than for new buildings; 10% compared to 19% for new buildings.

b. **Energy efficiency can be used on major proposals for SCR1 compliance:** Existing buildings may not be suitable for renewable energy. In this case, a 10% reduction in emissions can be achieved through energy efficiency.

3.19. The reduction in emissions is to be achieved on the area within the planning application only, not the rest of the existing building that is outside the area of the planning application.

3.20. **Table 2.5:** The table should demonstrate a 10% improvement in regulated CO_2 emissions compared to a baseline building that meets the requirements of Part L1B for residential developments and Part L2B for non-domestic buildings. The baseline building/dwelling(s) should be modelled as follows:

- Geometry and space types as per the proposed building
- Building fabric and glazing U-values as per the requirements of Part L2B/Part L1B. Performance of thermal elements or controlled fittings that are not upgraded should be estimated as per the non-domestic EPC Conventions guidance/SAP guidance for existing dwellings
- Air tightness of the building envelope should be estimated as per the non-domestic EPC Conventions guidance/SAP guidance for existing dwellings
- New building services systems as the minimum requirements of the Non-Domestic Building Services Compliance Guide/Domestic Building Services Compliance Guide
- Retained building services systems as per non-domestic EPC Conventions guidance/SAP guidance for existing dwellings

The proposed building/dwelling(s) should be modelled as the proposed design. Any retained systems or fabric that is not upgraded should have the same performance as the baseline building/dwellings(s).

3.21. **Historic Buildings:** Proposals for works to historic buildings will be judged on their own merits, taking into account the significance and character of the

building and its setting. All Listed Building Consent application must provide full details of energy measures including their impact on fabric or building function. Further guidance is provided in the Council's Sustainable Construction and Retrofitting SPD, including advice on listed buildings and the particular building types in Bath and North East Somerset.

Track 4: Certified Passivhaus (Table 2.5)

3.22. Proposals certified to the Passivhaus[9] standard for new build or Enerphit for existing buildings will be considered to have met the requirements for SCR1 and CP2, since the Passivhaus certification process itself has been demonstrated to reliably achieve reductions in energy use.

Passivhaus projects use rigorous design and construction to provide a high level of occupant comfort and use very little energy for heating and cooling. Passivhaus buildings have been shown to mitigate the "performance gap[10]" commonly found in new build projects, whereby energy use once occupied is significantly higher than predicted at the design stage.

3.23. **Compliance requirements**: In order to qualify for Track 4, applicants are to submit the following documents:

a. All applications are to include a written statement signed by the developer and the qualified Passivhaus professional working on the scheme confirming that Passivhaus professionals will be employed throughout the development process and that the scheme will be able to achieve full certification.

b. Full applications or Outline/ Reserved Matters applications for Appearance and Layout are to be accompanied by a summary output document from the Passivhaus Planning Platform (PHPP) software indicating that the design is Passivhaus compliant. These applications should also be accompanied by a completed Table 2.5 as per the methodology for Track 2 and supporting part L documents, which should show that emissions reductions are at least sufficient to achieve policy compliance.

c. There are a range of levels of Passivhaus certification and these may be subject to change. During the pre-application process, planning officers can advise on which of these will qualify for Track 4.

d. If a multiple-building proposal contains some units that are to be certified to Passivhaus and some that aren't, those that are not to be certified will need to meet the usual requirements of the Energy Tracks above.

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[9] http://www.passivhaustrust.org.uk/
[10] http://www.zerocarbonhub.org/current-projects/performance-gap

e. Achievement of Passivhaus certification will be a condition of consent, to be discharged by submission of a Passivhaus certification document prior to occupation.

f. If Passivhaus certification is not achieved, compliance with SCR1 and CP2 as set out in the other Tracks is to be demonstrated in order to discharge the condition.

Exemptions

3.24. Evidence commissioned to inform the policies within the Placemaking Plan found that B2 and B8 industrial uses may find it more difficult to increase energy performance, so no requirements are set for these uses. This may be subject to change if studies are revised and applicants are strongly encouraged to improve energy performance where possible.

SECTION 3: DISTRICT HEATING

1. **Background:** District heating can reduce CO2 emissions by using a renewable or low carbon heat source e.g. biomass, heat pumps or Combined Heat and Power.

2. **Placemaking Plan Policy CP4 - Table 3:** Below are excerpts from the Policy CP4:

> *Development within Heat Network Priority Areas "will be expected to incorporate infrastructure for district heating, and will be expected to connect to existing systems where and when this is available, unless demonstrated that this would render development unviable".*

For development in these Priority areas, full compliance with CP4 is required, as set out in Table 3.

> *"Development within the Heat Network Opportunity Areas will be encouraged to incorporate infrastructure for district heating, and will be expected to connect to any existing suitable systems (including systems that will be in place at the time of construction), unless it is demonstrated that this would render development unviable".*

For development in the Opportunity Areas, we expect to see consideration of heat networks as set out in Table 3.

3. **Table 3: District heating:** Full applications or Outline/ Reserved Matters applications for Appearance within a Heat Network Priority Area or Heat Network Opportunity Area are to complete Table 3: District Heating, demonstrating how they will respond to Policy CP4. Pre-applications can respond to questions 1 - 5.

4. **Maps:** The Council has produced maps of the heat network areas which can be viewed on the Council's Energy Networks Webpage[11]. The website should always be checked for the latest map, since maps may change as our evidence base is refined. Please note: The more detailed map for the Central Bath/ Enterprise Area Heat Networks, available on the Energy Networks page, is to be used in place of the "circle" diagrams within the Placemaking Plan.

SECTION 4: WATER

Water efficiency will become a growing issue as the climate changes.

1. **Policy SCR5: Water Efficiency** states that:

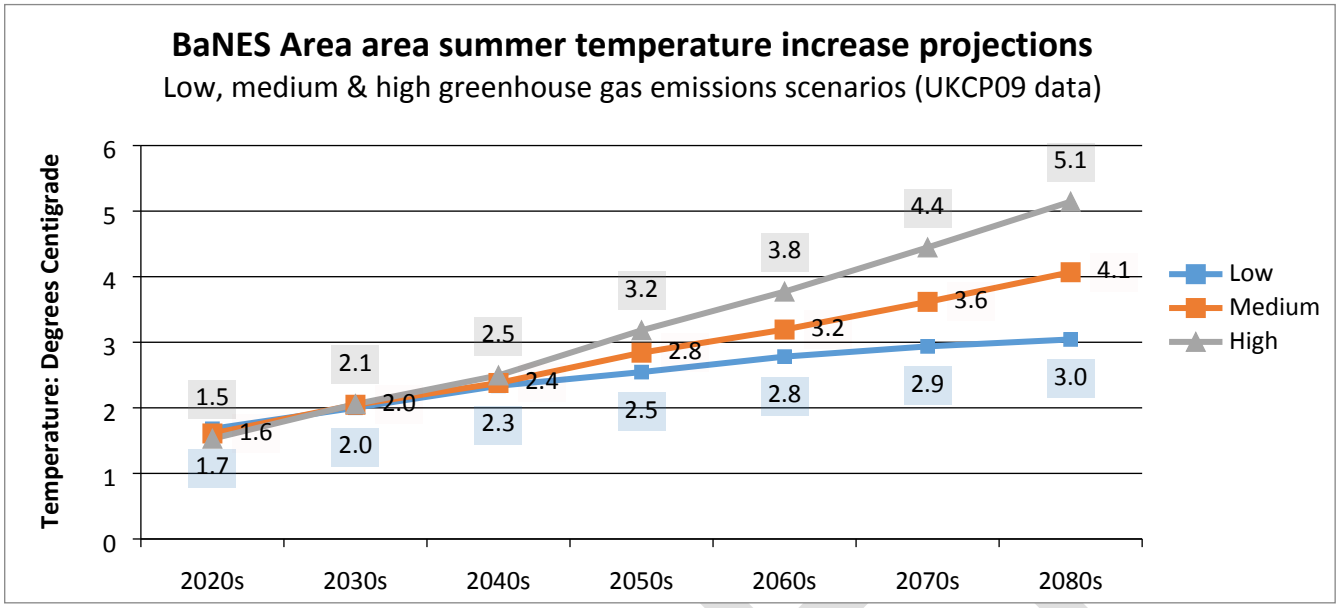
> *a) All dwellings will be expected to meet the national optional Building Regulations requirement for water efficiency of 110 litres per person per day;*
>
> *b) Rainwater harvesting or other methods of capturing rainwater for use by the residents (e.g. water butts) will be required for all residential development, where technically feasible.*

2. **Table 4: Water:** Full applications or Outline/ Reserved Matters applications applying for Appearance for residential proposals are to complete Table 4. Mixed use proposals should provide an assessment for the residential element of the scheme.

3. **Major residential applications** are to attach the outputs of a Part G Water Calculator (widely available online) to illustrate the water efficiency strategy and demonstrate compliance with the standard. Pre-applications can provide an outline of their approach to water efficiency in the narrative section of the table.

[11] http://www.bathnes.gov.uk/services/planning-and-building-control/planning-policy/energy-networks

SECTION 5: OVERHEATING



Global temperatures have already risen 1° from a pre-industrial baseline. A 2°C rise in temperature, predicted by the 2030s, would provide temperatures roughly equivalent to the South of France. Climate change is already causing overheating and this is likely to worsen over the lifetime of the buildings. The design of buildings should ensure comfortable conditions for future occupants without relying on carbon intensive active cooling. Policy CP2 states that all proposals should have *"consideration of climate change adaptation"* and overheating is a major element of this. All proposals are to respond to overheating, with specific requirements for Large Scale development.

All Proposals: Table 5.1

1. **Table 5.1: Overheating mitigation strategy:** Full applications or Outline/ Reserved Matters applications for Appearance are to include Table 5.1 stating how the Cooling Hierarchy has been implemented:

    I. **Minimising internal heat generation through energy efficient design:** For example, 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.

    II. **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, trees and vegetation.

III. **Use of thermal mass and high ceilings to manage the heat within the building:** Increasing the amount of exposed thermal mass (dense materials that can absorb and release heat slowly) can help to absorb excess heat within the building.

IV. **Passive ventilation:** For example, through the use of openable windows, cross-ventilation, dual aspect units, designing in the 'stack effect'.

V. **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. This will require a by-pass on the heat recovery system for summer mode operation.

2. Overheating should be considered alongside other design criteria[12]. Proposals should respond to their context and the measures set out in Table 5.1 will not be suitable in all cases. We expect to see the optimisation of measures that do not increase CO_2 emissions as opposed to active cooling e.g. air conditioning.

Large Scale Development: Tables 5.2 to 5.6

3. **CIBSE Assessment:** Large Scale new-build development can demonstrate leadership in tackling overheating. The compliance tools for Building Regulations are not intended to accurately evaluate overheating, so Large Scale proposals use the more sophisticated CIBSE standards TM52 for non-residential development and TM59 for residential development[13].

4. The CIBSE methodologies assess "adaptive thermal comfort" which takes into account that building occupants already adapt to high temperatures, e.g. by wearing lighter clothing. This is captured in the criteria below:

   I. TM59 & TM52: "Hours of Exceedance", a measure of how often the temperature exceeds a threshold comfort temperature during a typical warm season, and sets a limit of 3% of occupied hours.
   II. TM52: "Daily Weighted Exceedance"; the severity of overheating within any one day. The limit is no more than 6 hours a day above the thermal comfort threshold.
   III. TM52: "Upper Limit Temperature" which sets an absolute maximum temperature for a room beyond which the level of overheating is unacceptable.

[12] Approaches to overheating are summarised in the Zero Carbon Hub's leaflet: http://www.zerocarbonhub.org/sites/default/files/resources/reports/ZCH-OverheatingLeaflet-5-TechnicalSolutions-S_0.pdf

[13] Links to the CIBSE standards can be found here: https://www.cibse.org/news-and-policy/policy/overheating-position-statement

5. **Early-stage condition:** We appreciate that these assessments are a cost for applicants and also that they are not meaningful until the detailed design is complete. To reflect this, CIBSE assessments will be required at a later stage; in order to discharge an early-stage condition; instead of being required at the application stage. This means that the assessment is undertaken only once the design is finalised.

6. **Multiple Buildings:** Proposals with multiple buildings are to assess a representative sample of each building type. Please consult with an officer during the pre-application process about how many assessments are needed.

7. **Current and future climate scenarios:** Since the buildings constructed today will still be occupied in 2050, it is important to consider how buildings will perform under future conditions. The CIBSE assessment should be run twice with the following data files/ scenarios:

    I. **Current Climate:** CIBSE Design Summer Year (DSY1) for the 2020s, high emissions, 50th probability scenario (Swindon data should be used for this and all other modelling using CIBSE files).

    II. **Future Climate:** 2050 files, medium emissions, 50th probability scenario. Applicants can select whether to use the CIBSE 2050 data files or those available from the PROMETHEUS[14] project or its successor, Project COLBE[15] which are based on climate change models and will shortly be available at a 5km grid resolution, including for Bath.

8. **Table 5.2Overheating in residential development:** Large residential proposals of 50 units or more should conduct the assessment for CIBSE TM59 *"Design methodology for the assessment of overheating risk in homes"*[16]*.* Outputs are to be used to complete Table 5.2. The CIBSE assessment is to be undertaken on a baseline building with no active cooling, to demonstrate that passive measures have been maximised. As noted above, two assessments are to be undertaken, for the current and future climate respectively.

9. Compliance benchmark: Meet the CIBSE standard in the current climate: Proposals are to achieve a "pass" for the current climate, meeting criteria A and B (hours of exceedance in living rooms, kitchens and bathrooms and hours of exceedance in bedrooms).

10. We expect residential development to achieve a "pass" for the current climate unless there are exceptional circumstances. If the proposal cannot achieve a

[14] http://emps.exeter.ac.uk/engineering/research/cee/research/prometheus/downloads/
[15] http://projectcolbe.org/
[16] https://www.cibsejournal.com/technical/using-tm59-to-assess-overheating-risk-in-homes/

pass without active cooling, Table 5.5 “Active Cooling” is to be used to show that the performance of the active cooling system exceeds the requirements of Part L.

11. **Table 5.6 Future Proofing:** Meeting the CIBSE standards using future data may not be achievable in all cases. In this case, Table 5.6: Future Proofing, should be completed, setting out how the existing design facilitates the implementation of further low or zero carbon measures to address overheating should they be needed in the future.

12. **Table 5.3: Overheating in non-residential development:** Large non-residential proposals of more than 5000m^2 are to use the methodology in CIBSE TM52 *“The Limits of Thermal Comfort: Avoiding Overheating in European Buildings”.* Modelling should be conducted for the part of the building hat has the greatest risk of overheating as per the CIBSE methodology. The CIBSE assessment is to be undertaken on a baseline building with no active cooling, to demonstrate that passive measures have been maximised.

13. Compliance benchmark: Meet the CIBSE standard in the current climate: Large development will be expected to meet the TM59 or TM52 standard for the 2020s scenario (CIBSE DSY1), showing that it will not require active cooling to remain comfortable in the current climate.

14. We expect most non-residential development to achieve a “pass” for the current climate unless there are exceptional circumstances, e.g. a deep-plan office building. If the proposal cannot achieve a pass without active cooling, Table 5.5 “Active Cooling” is to be used to show that the performance of the active cooling system exceeds the requirements of Part L.

15. **Table 5.6 Future Proofing:** Meeting the CIBSE standards using future data may not be achievable in all cases. In this case, Table 5.6: Future Proofing, should be completed, setting out how the existing design facilitates the implementation of further low or zero carbon measures to address overheating should they be needed in the future.

16. **Exemptions:** Large proposals are expected to conduct an assessment as above unless the applicant can demonstrate exceptional circumstances where opportunities for reducing cooling demands via passive measures are constrained, for example industrial buildings including warehouses used for storage purposes; supermarkets; cinemas or theatres; laboratories or temporary structures.

17. **Table 5.4 CIBSE Modelling Notes:** CIBSE Modelling Notes is to be completed for all large scale applications to state how modelling has been conducted.

18. **Table 5.5: Active Cooling:** For some large proposals (e.g. offices with deep floorplates) active cooling may be a lower-carbon way to comply with CIBSE

TM52 (e.g. when compared to increasing non-cooled airflow). If this can be shown to be the case, active cooling systems that exceed the requirements of Part L are to be used.

19. To verify compliance, the Part L output report's 'HVAC Systems Performance' table is to be used. This compares the cooling demand of the actual and notional buildings for different building elements. Applicants should reduce the actual cooling demand below that of the notional Part L compliant cooling demand for each of the non-domestic spaces in the development where an active cooling load exists.

20. The results should be used to complete Table 5.4 and the output document from the Part L assessment containing the HVAC Systems Performance table is to be attached to the application.

5. **In the case of query** during the application process, a full written report using the CIBSE methodology including modelling outputs, or direct contact with the modelling personnel may be required for verification.

SECTION 6: SUSTAINABLE CONSTRUCTION

1. **Background**: CP2 sets out requirements for important aspects of sustainable construction that cannot be verified using a standard methodology e.g. a part L Assessment for energy or a CIBSE Overheating Assessment. Compliance with these requirements will be assessed on a case-by-case basis by planning officers and consultees.

2. **Table 6: Sustainable Construction:** Full applications or Outline/ Reserved Matters applications for Appearance are to complete this table to demonstrate how they have responded to the issues in Policy CP2 listed in bold below. Links o suggested compliance routes are provided:

a. **Minimisation of waste and maximising of recycling of any waste generated during construction and in operation:** Production of a Site Waste Management Plan (SWMP) in line with WRAP guidance[17] can enable the best use to be made of waste materials produced during construction. The Home Quality Mark[18] provides useful criteria for designing waste and recycling facilities for domestic properties, the BREEAM criteria for waste can inform non-domestic projects.

b. **Efficiency in materials use, including the type, life cycle and source of materials to be used:** A review of how the environmental impact of materials is

[17] http://www.wrap.org.uk/sites/files/wrap/WMM%20guide%20Mid%20level.pdf
[18] https://www.homequalitymark.com/standard

assessed is provided by the UK Green Building Council. For the impact of particular materials, please see the Building Research Establishment's (BRE) Green Guide to Specification[19]. For example, applicants could commit to using only materials rated "A" or "B" on the Green Guide.

c. **Flexibility and adaptability, allowing future modification of use or layout, facilitating future refurbishment and retrofitting**: The principles of Lifetime Homes[20] can be followed, enabling buildings to adapt to be suitable for occupants at all life stages and be adaptable for future uses.

d. **Consideration of climate change adaptation:** A review of measures to adapt to the changing climate is provided in the Technology Strategy Board's document "Designing for Future Climate"[21].

[19] https://www.bre.co.uk/greenguide/podpage.jsp?id=2126
[20] http://www.lifetimehomes.org.uk/
[21] http://www.arcc-network.org.uk/wp-content/D4FC/01_Design-for-Future-Climate-Bill-Gething-report.pdf

APPENDIX: DOCUMENTATION EXAMPLES

1. Part L output documents:

Where Part L documents are required the TER and BER/DER should be clearly displayed on the output documents as illustrated below Below is an excerpt from a Part L documents with the TER and BER/DER circled, making it straightforward to calculate whether the DER has achieved the percentage reduction required

a. SAP summary for dwellings

L1A 2013 - Regulations Compliance Report
Design - Final

NHER

This design final submission provides evidence towards compliance with Part L of the Building Regulations, in accordance with Appendix C of AD L1A. It has been carried out by an On-Construction Domestic Energy Assessor and can be accepted for Building Control purposes without further checking. It has been prepared from plans and specifications and may not reflect the 'as built' property.This report covers only items included within the SAP and is not a complete report of regulations compliance.

Assessor name	XXX XXX	Assessor number	1
Client	XXX XXX	Last modified	XX/XX/XXXX
Address	XXX XXX		

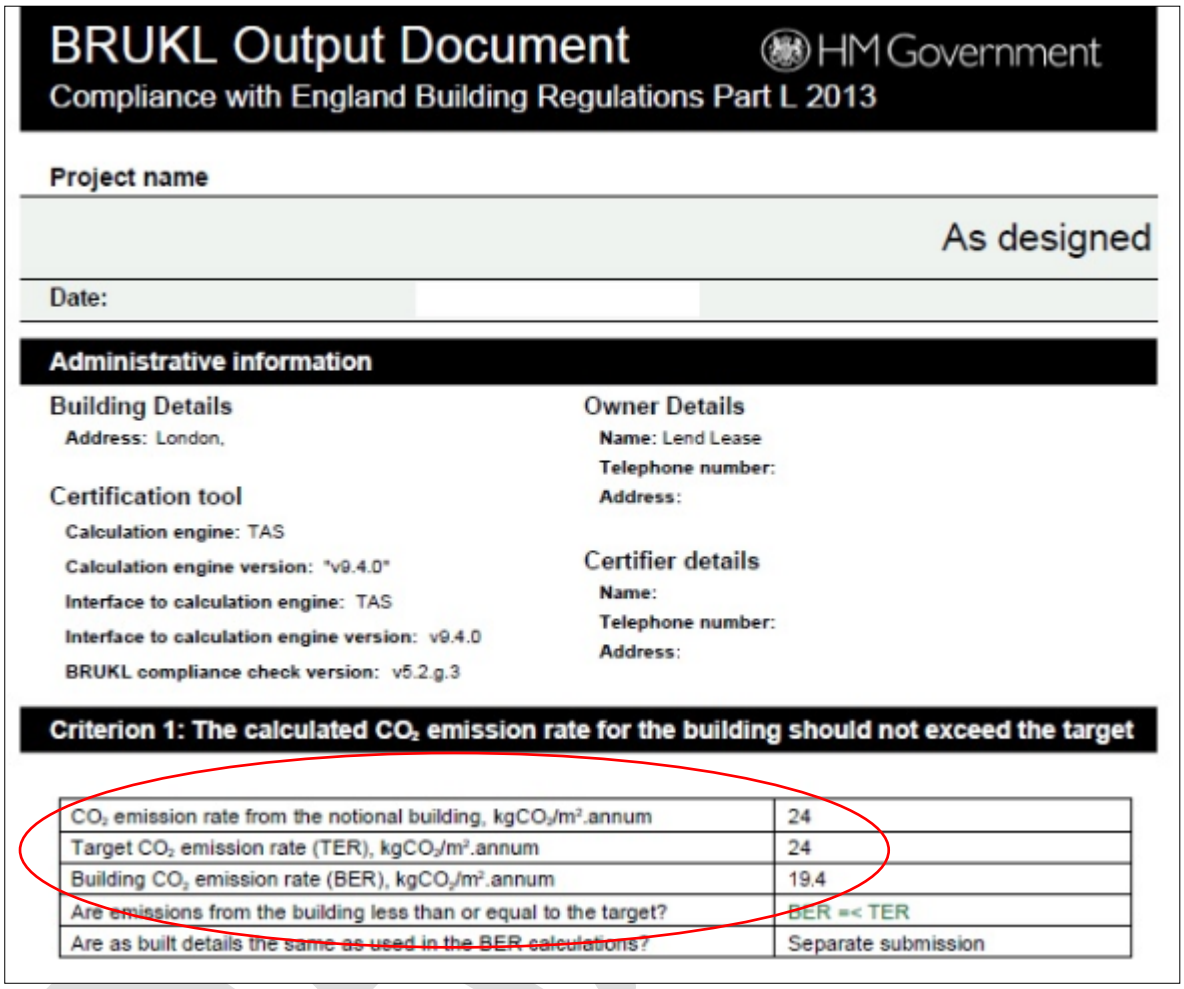
Check	Evidence	Produced by	OK?
Criterion 1: predicted carbon dioxide emission from proposed dwelling does not exceed the target			
TER (kg $CO_2/m^2.a$)	Fuel = N/A Fuel factor = 1.00 TER = 17.46	Authorised SAP Assessor	
DER for dwelling as designed (kg $CO_2/m^2.a$)	DER = 14.14	Authorised SAP Assessor	
Are emissions from dwelling as designed less than or equal to the target?	DER 14.14 < TER 17.46	Authorised SAP Assessor	Passed
Is the fabric energy efficiency of the dwelling as designed less than or equal to the target?	DFEE 53.8 < TFEE 55.9	Authorised SAP Assessor	Passed

Calculating Compliance
To comply with CP2 for new build, the DER figure above (14.14) must be 19% lower than the TER figure (17.46) e.g.

17.46- 14.14 = 3.32
3.32 / 17.46 x 100 = 19.01
= 19.01 %

So this example demonstrates compliance with CP2.

b. BRUKL summary for non-residential



BRUKL Output Document — HM Government

Compliance with England Building Regulations Part L 2013

Project name

As designed

Date:

Administrative information

Building Details

Address: London,

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.4.0"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.4.0

BRUKL compliance check version: v5.2.g.3

Owner Details

Name: Lend Lease

Telephone number:

Address:

Certifier details

Name:

Telephone number:

Address:

Criterion 1: The calculated CO_2 emission rate for the building should not exceed the target

CO_2 emission rate from the notional building, $kgCO_2/m^2.annum$	24
Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	24
Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	19.4
Are emissions from the building less than or equal to the target?	BER =< TER
Are as built details the same as used in the BER calculations?	Separate submission

Calculating Compliance

To comply with CP2 for new build, the BER figure above (19.4) must be 19% lower than the TER figure (24) e.g.

24 - 19.4 = 4.6
4.6 / 24 x 100 = 19.16
= 19.16 %

So this example demonstrates compliance with CP2.

2. Microgeneration Certificate Scheme (MCS) Certificates

An MCS Certificate is produced by the renewable energy installer stating that the equipment is live and connected (example below). It normally acts as the sign off from the installer, indicating they are happy their work is complete (other than snagging). It has the necessary detail to verify the information provided in Energy Table 2.

MCS

MCS Installation Certificate No. MCS-12345678-U

Version 1

Thursday, 12 December 2013 16:00:57

INSTALLER DETAILS

MCS Certificated Installation Company Name and MCS number:

Name of Installation Company 1234

SITE DETAILS

Address: 1 The Street
My Town
MP11 1AA

Supply MPAN: 12341234123412

GENERATION METER DETAILS

Generation Meter Make(s):

Make Name

Generation Meter Model(s):

Model Name

Generation Meter Serial Number(s) (MSN):

12345678

Generation Meter Reading(s):

0.0

(at commissioning date)

INSTALLATION DETAILS

Commissioning Date: 12/12/2013

Total Installed Capacity (kW): 4.00

Declared Net Capacity (kW): 4.00

Estimated Annual Generation (kWh): 3500.00

Green Deal Installation: No

Installation Type: Non-Standalone

Planning Regulations Compliance:

Permitted Development Rights (PDR)

Building Regulations Notification:

After the installation through a self certification Competent Persons Scheme (CPS)

PRODUCT DETAILS

Technology Type:

SOLAR PHOTOVOLTAIC

MCS Certificated Product Name:

PV Panel Product Name

MCS Certificated Product Manufacturer:

Manufacturer Name

MCS Certificated Product Number:

Product Number

PART 2: THE CHECKLIST

SECTION 1: THE PROPOSAL

TABLE 1.1: THE PROPOSAL	
Required for: All applications within the scope of the Checklist	
Name of Proposal	
Brief description e.g. residential, commercial, and size	*[Insert text here]*
Type of application e.g. Pre-Application, Outline, Full, Reserved Matters (noting Matters Reserved)	*[Insert text here]*
Tick if the application is a Reserved Matters application for Access	☐Tick here – no further information required

SECTION 2: ENERGY

TABLE 2.1: SUMMARY OF ENERGY STRATEGY
Required for: All applications (as below) and suggested for pre-applications. All required sections are to be completed cross-referencing where further detail can be found, in 500 words or less per section. See Section 2 of the Guidance above for details.
1 & 2 below for all applications, including outline applications where appearance is Reserved
1. **Passive design** e.g. 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.
2. **Renewable and low carbon energy approach** e.g. solar energy, biomass, heat pumps, solar thermal, heat networks and Combined Heat & Power (CHP). Please cite where drawings of renewable/low carbon technology are included in the application.
[Insert text here]
3- 7 below for Full or Reserved Matters applications for Appearance
3. **Energy efficiency measures** e.g. materials with high energy performance (lower U values than required by Part L), minimisation of thermal bridging, more insulation, low energy fixtures, heat recovery e.g. Mechanical Ventilation with Heat Recovery (MVHR) and appliances.
[Insert text here]
4. **Heating and hot water strategy** e.g. air source heat pumps, responsive heating controls, underfloor heating.
[Insert text here]
5. **Smart infrastructure** e.g. smart meters and appliances, energy storage, electric vehicle charging, building management systems.
[Insert text here]
6. **Ventilation and Indoor Air Quality Strategy** e.g. airtightness, natural or mechanical ventilation, windows, use of natural materials or low Volatile Organic Compound (VOC) materials to avoid pollutants. Where wood burners are to be used, please comment on the mitigation of impacts on external air quality.

[Insert text here]

7. **Performance Gap:** e.g. aftercare and post-occupation measures to ensure occupants know how to use the building to optimise energy performance and that systems are working correctly. For example, Soft Landings or seasonal commissioning of plant.

[Insert text here]

TABLE 2.2 SUMMARY OF REQUIREMENTS FOR ENERGY TRACKS

Required for:
1. Full applications or outline applications
2. To discharge the condition prior to occupation

Track	**Development Type:** Please tick to indicate which development type/s your proposal contains	**Please tick the boxes below to indicate that the required documentation has been attached**		
		Outline or reserved matters applications if not applying for Appearance	Full applications Outline or reserved matters applications applying for Appearance	Prior to occupation in order to comply with conditions
Track 1	☐ Major new build residential development ☐ Major new build non-residential development	☐Tick here – no further Section 2 (Energy) information required at this stage	☐ Completed Table/s 2.3 ☐ Part L design stage document/s for energy efficiency measures ☐ Part L design stage document/s for energy efficiency and renewable energy measures	☐ Completed Table/s 2.3 ☐ Completed Table 2.4 ☐ Part L post-completion document/s for renewables ☐ Part L post completion document/s for energy efficiency ☐ MCS Certificate/s
Track 2	☐ Minor new build residential development ☐ Minor new build non -residential development	☐Tick here – no further Section 2 (Energy) information required at this stage	☐ Completed Table/s 2.5 ☐ Part L design stage document/s	☐ Completed Table/s 2.5 ☐ Part L post completion document/s
Track 3	☐ Major or medium works to existing buildings	☐Tick here – no further information Section 2 (Energy) required at this stage	☐ Completed Table/s 2.5 ☐ Part L design stage document/s	☐ Completed Table/s 2.5 ☐ Part L post completion document/s
Track 4	☐ Passivhaus	☐ Statement from Passivhaus	☐ Statement from Passivhaus professional	☐ Completed Table/s 2.5

		professional - also required at the pre-application stage.	☐ Summary of outputs from design stage PHPP ☐ Completed Table/s 2.5 ☐ Part L design stage document/s	☐ Part L post completion document/s ☐ Passivhaus certification
Exempt	☐ Industrial B2 or B8 uses			

TABLE 2.3: CALCULATIONS FOR TRACK 1

Required for:

1. Full applications or outline/ reserved matters applications for Appearance
2. To discharge the condition prior to occupation

For multiple building proposals, please state which building this is an assessment for; the reason for selecting this building as an example of building type, and a reference to where the building can be found on the drawings.	*[Insert text here]*
For multiple building developments, please highlight Yes or No to indicate whether the proposal as a whole will comply with Energy Track 1 and note how; e.g. if some buildings will have lower energy performance and be offset by others with higher performance.	**Yes/No** *[Insert text here]*

A	Baseline emissions	kg CO_2/m^2
B	Emissions after Energy Efficiency and Low Carbon measures (baseline for SCR1 compliance)	kg CO_2/m^2
C	% CO_2 reduction from Energy Efficiency measures only (A-B)/A*100	%
D	Emissions after Renewables are added to the Energy Efficiency Measures	kg CO_2/m^2
E	Further % CO_2 reduction from Renewables only. **At least 10% to comply with SCR1** (B-D)/B*100	%
F	CO_2 savings from all measures- Renewable and Energy Efficiency	kg CO_2/m^2
G	% CO_2 reduction from all measures. **At least 19% to comply with CP2** (A -F)/A*100	%

☐ Please tick to confirm that the two sets of design stage or post-completion SAP/SBEM summary documents are attached:

1. The reduction in CO_2 from energy efficiency measures only (C)
2. The overall reduction once renewables are added (G)

TABLE 2.4: RENEWABLE TECHNOLOGIES FOR TRACK 1				
Required for: Submission post-completion, to discharge the planning condition				
Technology type (e.g. PV, solar thermal, biomass)	Description	Capacity from this technology (kW)	Estimated annual generation (kWh)	Total CO_2 saving from this technology (kg CO_2/m^2)
Sample: Solar PV	28m^2 of 345W PV panels, 16% efficiency	3kWp	2550 kWh	1045
TOTAL				
☐ Please tick to confirm that the MCS Certificate is attached showing that the renewable technologies cited in this table have been installed and are operational (for installations of up to 50kW)				

TABLE 2.5: CALCULATIONS FOR TRACKS 2, 3 AND 4	
Required for: 1. Full applications or outline/ reserved matters applications for Appearance 2. To discharge the condition prior to occupation	
For multiple building proposals, please state which building this is an assessment for; the reason for selecting this building as an	*[Insert text here]*

example of building type, and a reference to where the building can be found on the drawings.		
For multiple building developments, please highlight Yes or No to indicate whether the proposal as a whole will comply with Energy Track 1 and note how; e.g. if some buildings will have lower energy performance and be offset by others with higher performance.	**Yes/No** *[Insert text here]*	
A	Baseline emissions	kg CO_2/m^2
B	Emissions after All Measures (Renewables plus Energy Efficiency Measures)	kg CO_2/m^2
C	**Track 2 and 4:** % CO_2 reduction from all measures should be at least 19% (A-B)/A*100	%
	Track 3: % CO_2 reduction from all measures, should be at least 10% (A-B)/A*100	%
☐ Please tick to confirm that design stage or post-completion SAP/SBEM summary documents are attached		

SECTION 3: DISTRICT HEATING

TABLE 3: DISTRICT HEATING			
Required for: Full applications or outline/ reserved matters applications for Appearance within a Heat Network Priority Area or Heat Network Opportunity Area. Pre-applications should respond to questions 1 - 5. See Section 3 of the Guidance for details.			
1	Is the proposal in a Heat Network Priority Area?	Yes	No
2	Is the proposal in a Heat Network Opportunity Area?	Yes	No
If "Yes" to Question 1 above (Priority Area), at least one of Questions 3-5 must also be a "Yes" **If "Yes" to Question 2 (Opportunity Area), please complete the table and if Questions 3-5 are "No" please explain in Question 13.**			
3	Does the proposal include a heat network? If "Yes" please complete	Yes	No

	One of these must be ticked for proposals in Priority Areas		
4	Does the proposal include connection to an existing heat network?	Yes	No
5	Is the proposal future-proofed to connect to future heat networks? If so, the answer to Questions 9- 12 should be "Yes"	Yes	No
6	If the proposed development is in proximity to an existing heating scheme (e.g. Bath Western Riverside), has the incumbent district heating operator been contacted to discuss the potential for connection to the existing network? Proof of contact may be required.	Yes	No
7	If the proposed development is a large scale multi-building development (e.g. over 500 residential units and/or over 10,000m^2 of non-residential floor space – in particular with hotels, hospitals, leisure centres or student residences), has an open-book viability assessment for district heating been carried out and full report attached?	Yes	No
8	If a heat network or connection to a heat network is proposed, has a document providing further details been attached?	Yes	No
Future Proofing			
9	If the development includes residential apartment buildings, is heating provided to the apartments from a single central heat source as opposed to heating plant for individual units? Please explain in Question 13 if the answer is "no".	Yes	No
10	Has a potential intake route for district heating pipe to the building(s) been identified and safeguarded? Please note below the location and the document and page number containing the drawing/s upon which it is identified:	Yes	No
	[Insert text here]		
11	Is the heating plant room(s) in a location that allows access for district heating pipe (e.g. located on ground floor, adjacent to public highway) Please note below the location and the document and page number containing the drawing/s upon which it is identified:	Yes	No
	[Insert text here]		
12	Does the plant room design allow for future connection e.g. space allowed for installation of a plate heat exchanger and additional plant as required? Please note below, including the calculations for space allocated, and reference the document and page number showing where this is included in drawings:	Yes	No
	[Insert text here]		

13	Please add any further information
	[Insert text here]

SECTION 4: WATER

TABLE 4: WATER	
Required for: Full applications or outline/ reserved matters applications for Appearance for residential development, or the residential element of a mixed use scheme. Pre-applications within this scope should provide a summary of the approach in the box below. See Section 4 of the Guidance for details.	
Outline below the approach to water efficiency e.g. greywater or rainwater harvesting, low-flow rate sanitary ware and white goods	
[Insert text here]	
Confirming compliance and documentation required	
☐ Major residential development: 10+	☐ The 110 litres per person per day standard will be met ☐Rainwater harvesting or other methods of capturing rainwater for use

dwellings	by the residents (e.g. water butts) has been included ☐The output from an accredited Part G water calculator has been attached, demonstrating the results and measures used.
☐ Non- major residential development	☐ The 110 litres per person per day standard will be met ☐Rainwater harvesting or other methods of capturing rainwater for use by the residents (e.g. water butts) has been included

SECTION 5: OVERHEATING

TABLE 5.1: OVERHEATING MITIGATION STRATEGY
Required for: Full applications or outline/ reserved matters applications that address appearance, and suggested for pre-applications within this scope. See Section 5 of the Guidance for details.
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, trees and vegetation.
[Insert text here]
Use of thermal mass and high ceilings to manage the heat within the building: Increasing the amount of 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. This will require a by-pass on the heat recovery system for summer mode operation.
[Insert text here]

TABLE 5.2: OVERHEATING IN RESIDENTIAL DEVELOPMENT – CIBSE TM59			
Required For: Full applications or outline/ reserved matters applications for Appearance for large scale residential proposals, in order to discharge the condition. The proposal should achieve a "pass" in the current climate scenario to comply with CP2 and set out an overheating future proofing scenario in Table 5.4.			
CURRENT CLIMATE (CIBSE DSY1):			
Zone Name and Room Use	**Criterion A:** Hours of exceedance for living rooms, kitchens and bedrooms	**Criterion B:** Hours of exceedance for bedrooms only	**Result** Both criteria to be

	A. Occupied Hours	B. Max. no. hours exceedance (3% occupied hours)	C. Calculated No. hours exceeding Comfort Range – **Not to exceed "B"**	D. Annual Night time occupied hours	E. Max. no. hours exceedance (1% occupied hours)	F. Calculated no. hours exceeding Comfort Range – **Not to exceed "E"**	met to pass
E.g. Bedroom 1 [insert text to change]	3,672	110	[enter modelling result here]	3285	32	[enter modelling result here]	Pass ☐
E.g. Living room [insert text to change]	1,989	59	[enter modelling result here]	n/a	n/a	n/a	Pass ☐
[Add rows as needed]							Pass ☐

Please tick to confirm

☐ Two CIBSE TM59 assessments have been completed

1. Present climate
2. Future climate

☐ Tick here to verify that the cover sheet for both assessments have been attached, summarising overheating performance

TABLE 5.3: OVERHEATING IN NON-RESIDENTIAL DEVELOPMENT – CIBSE TM52

Required For: Full applications or outline/ reserved matters applications for Appearance for large scale non-residential proposals, in order to discharge the condition. The proposal should achieve a "pass" in the current climate scenario to comply with CP2.

Zone Name	Room use	**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** (2 out of 3 criteria to be met)

		A. Occupied Hours – will depend on use type	B. Max. no. Hours exceedance (3%)	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	
E.g. stairwell	Circulation space			Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	**Pass ☐**
E.g. office	Office			Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	**Pass ☐**
[Add rows as needed]				Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	Pass ☐ [enter modelling result here]	**Pass ☐**

Please tick to confirm

☐ 2 CIBSE TM52 assessments have been completed

1. Present climate
2. Future climate

☐ The summary sheets from the TM52 assessments are attached

TABLE 5.5: ACTIVE COOLING

Required For: Full applications or outline/ reserved matters applications for Appearance for large scale residential or non-residential proposals, in order to discharge the condition.

Please describe below why active cooling would be a lower emissions approach to meeting the CIBSE TM52 requirement than passive cooling, and outline the active cooling strategy, including type of plant and efficiencies, and whether free or renewable cooling sources such as ground or river water cooling have been 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	
Notional	
Please tick to confirm ☐ Part L output section containing the "HVAC Systems Performance" table is attached	
TABLE 5.6: FUTURE PROOFING	
Required For: Full applications or outline/ reserved matters applications for Appearance for large scale residential or non-residential proposals for which the current design does not achieve compliance with the CIBSE standard in the 2050 climate, in order to discharge the condition.	
Please describe the measures that could be applied in the future to enable the building to address overheating in the future climate and how the existing design has facilitated the implementation of these measures, with an emphasis on low or zero carbon measures.	
[Insert text here]	

SECTION 6: SUSTAINABLE CONSTRUCTION

TABLE 6: SUSTAINABLE CONSTRUCTION

TABLE 5.4: CIBSE MODELLING NOTES		
Required For: Full applications or outline/ reserved matters applications for Appearance for large scale residential or non-residential proposals, in order to discharge the condition		
For accommodation with vulnerable occupants such as babies, elderly or disabled people have Type 1 occupancy parameters (as per CIBSE TM52) been used?	Yes	No
Has a full written report for TM52 or TM59 been produced in line with the CIBSE methodology?	Yes	No
Please note which part/s of the building/s were selected to model compliance and why:		
[Insert text here]		
Please note modelling including the dataset, location, software used and emissions scenario:		
[Insert text here]		
Please indicate how the building is future proofed for further adaptation to rising temperatures:		
[Insert text here]		
Contact details for personnel undertaking the modelling:		
[Insert text here]		

Required For: Full applications or outline/ reserved matters applications within this scope. See Section 6 of the Guidance for resources. 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.
Minimisation of waste and maximising of recycling of any waste generated during construction and in operation:
[Insert text here]
Efficiency in materials use, including the type, life cycle and source of materials to be used:
[Insert text here]
Flexibility and adaptability, allowing future modification of use or layout, facilitating future refurbishment and retrofitting:
[Insert text here]
Climate change adaptation other than overheating e.g. heavy rain, flooding, landslide. Measures might include slope stabilisation, Sustainable Urban Drainage Systems (SUDS), oversized gutters:
[Insert text here]
Please note any sustainability standards to be sought e.g. BREEAM, Home Quality Mark, or other energy targets
[Insert text here]

SECTION 7: NON-COMPLIANCE

TABLE 7: Non-compliance

We expect development to be able to comply with the requirements above. If non-compliance with any of the Sustainability requirements above is proposed on the grounds of viability or technical feasibility, a full open-book viability test or technical rationale may be required and the applicant will be expected to pay the cost for an independent review to determine its validity.
Please tick here if non-compliance with any of the policies above is proposed ☐ Please note below the policies for which non-compliance is proposed and summarise the rationale for non-compliance. *[Insert text here]*
☐ Viability: An open-book viability test is attached ☐ Technical feasibility: An open-book technical rationale is attached ☐ I confirm my understanding that the Council may require an independent assessment to be undertaken at the applicant's cost