New build Sustainability Checklist for Stroud District Council

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1 Introduction

The purpose of this checklist is to encourage new housing developments to contribute as much as possible to sustainable levels of living within the Stroud District. This is in line with new planning policies as well as Gloucestershire Energy Strategy.

2 How it works

For each question please answer whether or not you intend to implement this and how you intend to show us how you've done it. The more items of sustainability you address, the more sustainable your new dwelling is. This makes things better for the people that live in the new home and for everyone else in the local area too.

1. Answer each of the sustainability questions - each positive answer has a score
2. Show us how you intend to evidence each sustainability item - the score is increased if you have a third party verifier
3. Add up your scores
4. Grade you scores to a bronze, silver or gold application.
5. Submit this checklist with your planning application. No submissions will result in zero score and classed as a sub-standard application

2 Checklist

For more detailed specifications of each of the items, please see notes below.

Item	Question - applies to all homes in the development at application stage	Answer	Do you intend third party verification?	Item score
1. Energy efficiency	Do you intend to achieve a SAP rating of 86 or better?	(Score 1 if "yes")	(x score by 1.3 if yes)	
2. Overheating	Will all the homes be at low risk of overheating?	(Score 1 if "yes")	(x score by 1.3 if verified other than appendix P)	
3. Biodiversity	Will you demonstrate biodiversity net gain?	(Score 1 if >=10%)	(x score by 1.3 if yes)	
4. Cycle storage	Will you provided suitable cycle facilities?	(Score 1 if "yes")	(x score by 1.3 if yes)	
5. Internal recycling	Will you provide suitable internal recycling facilities?	(Score 1 if "yes")	x score by 1.3 if yes)	

6. Sustainably sourced materials	Will you have eco-credentials for the materials the homes are made of?	(Score 1 if “yes”)	(x 1.3 if assessed to HQM standard)	
7. Flood resilience	Will the home be at low risk of flooding and does not cause surface water run-off (taking into account future rainfall projections)	(Score 1 if “yes”)	(x 1.3 if assessed to HQM standard)	
Total				Total the column above

Scoring and grading:

< 2.3 points = sub-standard
= 2.3 - <4.6 = bronze
= 4.6 - < 6.8 = silver
= 6.8 - < 9.1 = gold
= 9.1 = platinum

3 Notes

Energy

Building an energy efficient home is good for the occupant and the environment. The occupant gets a home that is very cheap to run and less CO2 is emitted into the environment.

To ensure that the home is cheap to run and has low emissions an energy efficiency rating of SAP 86 is recommended. The rating is calculated using the SAP methodology that is required for building regulations. Achieving SAP 86 is slightly higher than current building regulations but needn’t cost more to build.

The actual way of achieving SAP will vary from home to home, but as a general rule of thumb focus on:

1. Fabric first - ensure walls, floor, roof, windows and doors are as insulated as possible - this means the minimum amount of heat escape on cold days. When you do this, also take care to ensure good levels of ventilation (see overheating later).
2. Efficient heating systems - there are lots available and you can ask your designers to experiment with the SAp calculation to see which ones get you to SAP 86 the easiest. Heat pumps, gas boilers and mechanical ventilation with heat recovery (MVHR) all have different pros and cons.
3. Renewables - the easiest to install are solar PV which means you can generate your own electricity - even at low levels of sunshine.

For 1 point - ensure that your design intends to be SAP 86
For 1.3 points - ensure that the as built SAP submitted to building control has SAP 86

Overheating
Our climate is projected to get warmer due to historic CO2 emissions. You will need a home to have a low risk of overheating in order for occupants not to suffer during projected heatwaves.

Appendix P of the SAP calculations mentioned in the energy section also provide a rough overheating risk assessment. It is simple to use but does not include projected summer temperatures and some overheating mechanisms are not included.

There are other more detailed overheating risk assessments available.

In any case, two key ways to prevent overheating are external shading (e.g. brise soleil on windows) and adequate ventilation (this is where MVHR systems may perform a dual function).

For 1 point ensure your designs have “low” risk as shown by SAP calculations submitted to building control
For 1.3 points use any of the methods below:

- Home Quality Mark (HQM) - this is BRE’s successor to the Code for Sustainable Homes. It contains a more robust overheating risk assessment process that includes future climate change.
- PassivHaus Planning Package - overheating risk reduction is an inherent part of PassivHaus design and is considered robust
- CIBSE TM59 - widely considered a robust dynamic simulation model and used successfully for buildings such as care homes. Rarely used in a domestic situation due to cost.

Biodiversity

As well as making any home look nice and pleasant, provide habitat that benefit our biodiversity provides lots of other so called “ecosystem” services. Clean air, a little bit of summer cooling, help with flood protection are just a few examples.

For 1 point - demonstrate to your own satisfaction that you have more biodiversity on the site after building than before building was started
For 1.3 points - use this specification (or one of similar robustness):

In the Home Quality Mark Technical Manual: gain 2 credits under “03 Routes of rigour (follow 3A or 3B): Liaison, implementation, and data” under Clause 2.3 Ecological Change and Enhancement will achieve enhancement without significant cost to a builder. This will typically involve consulting with an ecologist and planting to his or her recommendations.

Cycle storage

Providing suitable cycle storage that is secure and has easy access to a cycle track of highway encourages cycle use. As well as health benefits, cycling reduces CO2 emissions and contributes to local air cleanliness.

For 1 point - demonstrate that you will provide suitable cycle storage that is secure and with easy access to a highway or cycle track.

For 1.3 points - provide cycle storage to this specification:

From the Home Quality Mark Technical Guide for secure and convenient cycle storage. It is recommended that housebuilders are required to gain 3 credits under the “ 02 Cycle Storage” in section 1.2 Sustainable Transport Options.

For large developments ensure that the scheme results in an increase in the cycle network as per Gloucestershire Transport Plan, PD 2 - Cycle.

Electric Vehicle Points - Although not part of this checklist, you may want to consider installing an electric vehicle charge point. HQM does have a specification for this so it would be possible to specify this.

Internal waste recycling

Data from WRAP (Waste Resources Action Plan) suggests that internal recycling bins do encourage more recycling and hence avoid waste to landfill.

For 1 point - ensure that internal recycling bins are installed in the kitchen
For 1.3 points ensure that the bins meet the specification for these is given in HQM, section 7.3 Recyclable Waste and it is recommended that builders achieve 8 credits.

Sustainably sourced materials

Ensuring that the materials used in the house build are sustainably sourced helps ensure that suppliers behave in an ethical manner.

For 1 point - gain assurances from your builder than the materials are sustainably sourced - there are various accreditations to look for, examples include FSC/PEFC timber and BES6001 for other building materials.

For 1.3 points - HQM has a specification on Environmental Impact of Materials which may be useful in section 6.2 Environmental Impact of Materials.

Flooding

Flooding is one of the key impacts projected from climate change in the forthcoming years. The biggest projected type of flood is now surface water run-off after intense downpours. To ensure your home will not suffer from flooding it is highly recommended that it is made either flood resistant (i.e. cannot flood), or flood resilient (i.e. allowed to flood but easy to recover afterwards).

You can check Environment Agency flood maps by putting in the development postcode and check for both surface water run-off risk and rising river flood risk.

In addition compensating for any loss of greenfield ground caused by building your home will help ensure that neighbours don’t have increased flood risk.

For 1 point - satisfy yourself that this home will not flood and that all run-off caused by your building is caught on drained on your site.

For 1.3 points - this is for maximum security ensure you achieve a minimum of 17 credits in section 3.1 Flooding of HQM.