

SUSTAINABILITY ASSESSMENT

July 2026

1.0 Introduction:

This assessment will consider and assess the energy performance and sustainability characteristics of a new house proposal at 77 Dunstall Avenue. By good design, it will be proven that the design for a single, detached 4-bedroom house will outperform the current requirement for energy efficiency under the Building Regulations by some margin and its inclusion in local housing stock will make a positive contribution to the Mid Sussex Local Plan.

2.0 Energy performance

The proposed house will have the following energy efficient technology:

An air source heat pump. These are run on electricity which can be collected and stored from solar panels.

Solar panels: 26 panels in total. Similar projects for single houses have shown that 14 solar panels can provide all the electrical energy a house needs for domestic use. Therefore the excess energy can be sold back to the national grid and/ or stored within a battery located within the garage for use at times where less solar energy is available. So that the roof looks neat and attractive, the solar panels are to be laid within a tray fixed to the roof and flush with the roof slates. This is a far more attractive detail than the panels being proud of the roof.

A battery is shown within a storage cupboard between the house and the garage. This is for the storage of excess solar energy. A common battery for this type of storage is a Tesla Power Wall, though this is not the only battery for domestic solar power storage. The supply of the battery will be provided by a nominated sub-contractor who supplies the solar panels and battery and all the technical equipment for the whole system.

Under floor heating. The most efficient heating for a domestic dwelling is underfloor heating where the heating is run at a lower ambient temperature for longer when the energy tariff is cheaper (though this will not be significant due to the amount of solar energy and surplus collected from roof panels). Underfloor heating will be a wet system where hot water is run via a heating manifold into the floor. Pipes are cast in a concrete slab that will radiate heat for a longer period during the day.

All appliances are to be 'A' rated for energy efficiency.

The house is to be super insulated. The external envelope is to be timber frame construction so that as much insulation as possible can be fitted within the walls, floors and roof. Each element (roof, walls, floor) will outperform the building regulations so that heat loss is as minimal as possible. Maximising the insulation within the external envelope will also ward against heat gain during the hotter months.

3.0 Water efficiency

The owner and future occupier of this development is keen to maximise free rainwater water. Rainwater harvesting is to be designed into the development where a below ground water storage tank is to be positioned in the front garden with an overflow to the proposed soakaway.

4.0 Ecology and Biodiversity

Please refer to the biodiversity net gain calculation and report regarding the enhanced ecology of the site as a result of the development.

5.0 Transport, Accessibility and Travel

The proposed development is to have a vehicle charging point where an electric vehicle can be charged. This is to be located on the front of the garage building. Much, if not all of the energy for charging an electric vehicle will be collected from solar panels.

Public transportation is abundant for the development site. The train station connects Burgess Hill to London and Brighton and beyond. Bus routes connect the site to all of East and West Sussex. Both bus routes and the train station are within walking distance.

6.0 *Materials and Waste*

Waste that is generated through the build process will be responsibly re-used where possible. The building industry has worked towards a goal of zero waste over the last 20 years because disposing of waste from building projects is so expensive. Recycling is a normal and healthy part of the building industry.

It may be possible to use some pre-used materials such as roofing slates and materials for the interiors such as flooring tiles or floorboards. Interior design does not affect the planning application. If a pre-used roofing slate is used, this can be secured by a planning condition.

7.0 *Designing for Climate Change*

The development does have, at the planning stage, a strategy for rainwater drainage and re-use. This is a separate document provided by a rainwater and foul water drainage specialist. The site is not in a flood zone. It is not at risk of flooding by sea or river and therefore in terms of flooding the site is in a sustainable location.

8.0 Summary

Having carefully considered the sustainability credentials of the development and taking pride in the construction and energy efficiency of the development, we are content that the development will be a worthy and attractive development that will set an example for future residential developments. In its construction, it will outperform the building regulations, and, during the detail design stage, we will prove that the renewable energy strategy to provide heating and hot water and electric vehicle charging is achievable through 26 solar panels.

We hope that the LPA of Mid Sussex Council agree that this development will result in a sustainable and energy efficient house for the area.

Sustainability Assessment written by

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James Breckell Architects Ltd was incorporated as a private limited company on the 14th May 2003. The company has been continually trading for 22 years.

Winner of the Shoreham Society Award for Architecture 2015
Distinction in Design Award (Adur District Council) 2016
Sussex Heritage Award for Housing
LABC Award for Housing
Shortlisted for LABC Award 2016

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