

Energy Statement

Project: Flats at 19 Alexander Parade,
Weston-Super-Mare BS23 3HD
January 2024

We have now completed our 'as designed' assessment of this project as requested. We have carried out the assessments using Government Approved SAP software to calculate the energy requirements and carbon emissions in compliance with Part L of current Building Regulations.

We have followed all calculation conventions and government requirements during this process.

Planning requirements

The following is the relevant extract from the North Somerset District Council's Core Strategy:

CS2: Delivering sustainable design and construction.

New development both **residential (including conversions)** and non-residential should demonstrate a commitment to sustainable design and construction, increasing energy efficiency through design, and prioritising the use of sustainable low or zero carbon forms of renewable energy generation in order to increase the sustainability of the building stock across North Somerset. The greatest potential for energy saving opportunities is likely to be at larger scale.

When considering proposals for development the council will:

- 1) require designs that are energy efficient and designed to reduce their energy demands.
- 2) require the use of on-site renewable energy sources or by linking with/contributing to available local off-site renewable energy sources to meet a minimum of 10% of predicted energy use for residential development proposals involving one to nine dwellings, and 15% for 10 or more dwellings.

Consequently, the requirement for this proposal is to provide a **minimum of 10% of the total energy** requirements of this building from renewable energy sources.

This Development

This building comprises a commercial property currently retail on the ground floor and offices above. The current proposal is to convert the first floor and roof space of the existing building to two individual flats. We have produced Predicted Energy Assessments for each of these, which also provides the total figures for the whole building.

It is noted that the North Somerset planning guidance requires the renewable energy requirement is to be expressed in terms of kWh.

The baseline for the purpose of this exercise is the theoretical total “regulated” energy (i.e., for space and water heating, lighting, pumps, and fans) that would be consumed by the occupied building over a year, if they were built to Building Regulations minimum standards as required by EPC legislation. (Approved Document Part L Conservation of fuel and power in new buildings other than dwellings, which came into effect on 16th June 2022).

This development has been designed to reduce energy use, and has taken into consideration:

1. siting and location – these are fixed as this is an existing building in an urban location.
2. shelter factors – there are substantial surrounding properties which shelter this building.
3. internal layout of rooms – the application plans show an efficient layout.
4. Insulation –this exceeds the minimum values of part L1A energy requirement as shown in table 2 attached. This shows the proposed figures compared to the minimum Part L requirements.
5. natural ventilation and lighting – fully opening windows and rooflights are being utilised to provide natural ventilation.
6. thermally efficient materials have been specified to exceed figures of part L1A.
7. construction techniques are based on best building practice.
8. shared heat through party walls – see 2 above.

Please note that the calculations are for the purpose of the planning application only. There is no implication that this is a design calculation for renewable energy technologies, as we do not have the expertise to design any specific system. It is an indication that the objective can be achieved. The choice of any specific technology remains with the client who should consult with a reputable installer/designer at an early stage to establish that any proposal is workable in practice, and in due course to establish the final design.

Any subsequent fit-out will need to comply with Part L of the Building Regulations. The services installed will either be as assumed or more energy efficient if chosen.

The requirements of the local authority Planning Department must not be confused with the requirements of Part L1A of the Building Regulations, however as part of this exercise we can confirm that, based on these assumptions, the proposals meet the requirements of the Building Regulations.

In due course, the Building Control Body will require different calculations to those presented below.

Before the sale or lease of the property is undertaken separate EPCs will be required based on actual construction and services used.

These figures have been used to populate the Energy Strategy Table

Suitability of technologies.

The site limitations preclude the use of most low carbon technologies. There is insufficient space for a heat pump ground source array.

An air source heat pump to serve the individual flats could be sited to cause undue disturbance to residents and neighbours. Consequently, these have been specified.

The location allows the installation of roof mounted solar panels.

An array of 6.9kWp is proposed in total utilising the flat roof.

Transferring the output from Solar thermal to individual flats is not practical whereas Solar PV generation can easily be transferred.

Conclusion

Because of the limitations for low carbon technologies the energy efficiency of the building fabric has been improved to complement the available solar PV to achieve substantial reductions in energy demand and CO² output.

The attached Energy Strategy calculation sheet show the comparison of thermal values and reduction in energy demand and carbon emissions.

The measures proposed will result in a total reduction of over **58%** of energy demand for the whole building compared to the **improved** model.

Both predicted EPC Energy Ratings fall in category '**A**'.

However, as carbon emissions are so low, both have Environmental Ratings of **100A**.

In conclusion I am pleased to confirm that this proposal fully complies with the requirement to show an improvement of at least **10%** over the Gross "Baseline" energy demand of this development.

Tim Winsland MRICS, Dip DEA, Dip NDEA (level 4).