L2 Energy Consulting

SBEM Calculations Explained

SBEM Calculations are a method of showing compliance with Part L: Conservation of Fuel & Power, of Building Regulations for non-dwellings otherwise known as commercial property. The calculations seek to demonstrate that the actual building concerned performs better, in terms of energy efficiency, than a notional building which conforms to the current standards set by Building Regulations. The notional building is the same shape and orientation as the actual building and the activities performed within each individual zone are also identical, the only things that do differ are the percentage glazing used within the calculations and the mechanical and electrical installations such as heating, cooling, ventilation, hot water generation and lighting.

The notional building will produce a Target Emission Rate (TER) in KgCO2/m² per annum and as this suggests this is a target which the actual building must not exceed in order to demonstrate compliance with Part L of the Building Regulations. The actual building will produce a Building Emission Rate (BER), if BER ≤ TER then the building concerned complies with regulations.

There are a couple of other hoops that must be jumped through in order to satisfy Building Regulations such as limiting u-value standards W/m².K for all external elements, efficiency of heat sources, power consumed through mechanical ventilation, lighting and air tightness of the building. Producing a building which merely complies to minimum standards will almost certainly not be enough to give a successful outcome of any SBEM Calculation,

Building Regulations 2013 have sought to vastly improve energy performance of new buildings and minimum standards must be largely improved upon in order to achieve a positive outcome.

Whether it is improved u-values, air tightness or lighting efficiencies which are implemented, a solution will be possible and L2 Energy will advise on an appropriate way forward.

On many occasions buildings will not pass without the introduction of renewable energy such as Photo-voltaics, Air Source Heat Pumps or Combined Heat and Power (CHP) Plant, all of these can be modelled into the calculation tool to identify the most appropriate solution for a given site and client.

L2 Energy Consulting have an enormous wealth of experience in achieving compliance for a whole manner of differing building types from schools, hospitals and student accommodation to 10 storey office blocks, flagship industrial facilities and large hotel developments, whatever the scheme we will find a solution.

Visit www.L2energy.co.uk for a full list of our services or email enquiries@L2energy.co.uk with any queries you may have. L2 Energy Consulting are here to help.