Fabric Energy Efficiency Standard

**What is the Fabric Energy Efficiency Standard (FEES)?**

Presented as a new Standard, the recommendations aim to deliver a high yet practical energy performance level for all new homes. The Standard focuses on the fabric of the home, to secure long lasting benefit for home owners and occupiers, and to make sure that energy efficiency plays a proportionate part in the ultimate delivery of zero carbon homes.

'Minimising energy demand will ensure that dwellings utilise Low and Zero Carbon (LZC) energy sources in the most efficient way. Focusing efforts on the comparatively long-lived building fabric helps to 'future proof' homes meaning they will be less likely to require difficult and expensive refurbishment upgrades at a later date.

**Energy Standard**

The Energy Efficiency standard takes into account:
- Building Fabric U Values
- Thermal Bridging
- Air Permeability
- Thermal Mass
- Solar, metabolic, lighting & appliance heat gains

**Carbon Standard**

The Carbon Compliance Standard takes into account:
- Heating/Cooling appliances
- Mechanical Ventilation
- Hot Water
- Active Controls
- Fixed lighting
- All LZC technologies

and includes the Energy Efficiency Standard.

**Fees Summary for clients**

For all SAP2009 reports we produce we will automatically provide our client with the FEES summary printout. We thought it would be useful for architects and developers to know how their current designs are performing against this new standard, so that when it does become part of the Building Regulations in the next couple of years, they would have better knowledge in how to comply.

**Calculations**

The calculation sheet lists input from completing the SAP, under different headings:
- Dwelling Dimensions for its volume
- Ventilation Rate to establish infiltration and air change rates
- Heat Losses from the building fabric by using the U Values, thermal mass parameter, thermal bridges, the heat loss parameter and ventilation losses
- Water heating requirement
- Internal Gains from metabolic, lighting, appliances, cooking, pumps & fans, water heating minus losses e.g. evaporation
- Solar Gains taken from the glazing input
- Mean Internal temperature

all of which go into calculating the two figures for the Space Heating & Cooling Requirements.

These two figures are then divided by the total floor area to produce a final FEES figure.

All of the calculations are completed automatically within the SAP software, to provide the printed report we give to our clients.

For each project we will monitor the effect of changes we make to the SAP input and notify the client of the affect on the FEES figure, keeping them up to date with how their design meets this new target on the road to zero carbon.