

# The Standard Assessment Procedure (SAP)

The Standard Assessment Procedure (SAP) is adopted by Government as the UK methodology for calculating the energy performance of dwellings within **Approved Document L1A** - Conservation of fuel and power in new dwellings and **Approved Document L1B** - Conservation of fuel and power in existing dwellings.

The calculation is based on the energy balance taking into account a range of factors that contribute to energy efficiency:

- materials used for construction of the dwelling
- thermal insulation of the building fabric
- ventilation characteristics of the dwelling and ventilation equipment
- efficiency and control of the heating system(s)
- solar gains through openings of the dwelling
- the fuel used to provide space and water heating, ventilation and lighting
- renewable energy technologies.

The calculation is independent of factors related to the individual characteristics of the household occupying the dwelling when the rating is calculated, for example:

- household size and composition
- ownership and efficiency of particular domestic electrical appliances
- individual heating patterns and temperatures.

Ratings are not affected by the geographical location, so that a given dwelling has the same rating in all parts of the UK.

The present edition is SAP 2005 in which:

- the SAP scale has been revised to 1 to 100, where 100 now represents zero energy cost. It can be above 100 for dwellings that are net exporters.
- the Dwelling CO<sub>2</sub> Emission Rate (DER) together with an Environmental Impact rating replace the Carbon Index
- energy for lighting is included
- solar water heating has been revised
- cylinder loss has been revised; manufacturer's data for heat loss becomes the preferred source of cylinder loss
- the effect of thermal bridging is taken into the account
- it incorporates additional renewable and energy saving technologies
- it provides a method for estimating a tendency to high internal temperature in summer
- data tables have been updated (e.g. fuel costs, CO<sub>2</sub> emissions, boiler efficiency and heating controls, etc.)
- the measure of energy is now kWh rather than GJ.