

## Standard Assessment Procedure (SAP)

The Standard Assessment Procedure (SAP) is the Government's recommended system for energy rating of all new dwellings of any size.

The SAP is used for:

Calculating the SAP rating on a scale from 1 to 100 based on the annual energy costs for space and water heating  
Calculating the Carbon Index (CI) on a scale of 0.0 to 10.0 based on the annual CO<sub>2</sub> emissions associated with space and water heating

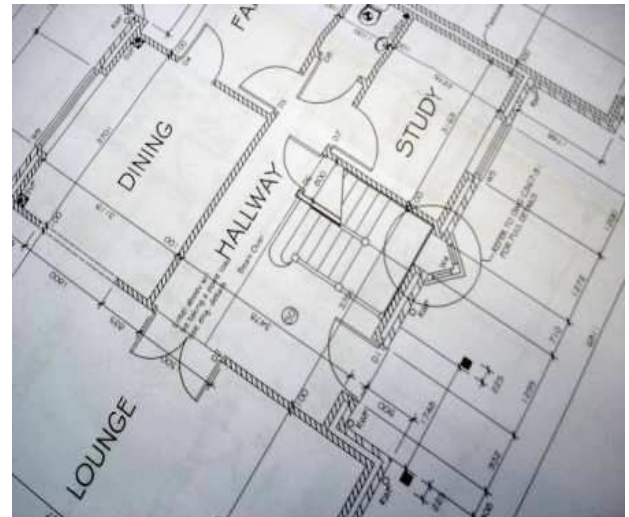
### Compliance

The SAP rating is used to fulfill requirements of the Building Regulations Part L1A & L1B to notify and display an energy rating in new dwellings.

The Carbon Index can be used to demonstrate compliance with Approved Document L1 (England and Wales) and Technical Standards Part J (Scotland).

The SAP is the single method of compliance within Part L Building Regulations (2006) and takes the notional carbon footprint calculation of a house from the 2002 Part L Regulations and specifies (through targets which will be increased) that a new build house must achieve a 25% reduction in carbon use to comply within current regulations. This re-calculated emissions rate is known as the Target Emissions Rate (TER).

SAP 2001 was published in December 2001 and became operational in Scotland from 4 March 2002, and in England and Wales from 1 April 2002. It was updated in January 2008.



### Relevant Legislation:

- First published 1995, Revised 1998, 2001 (space & water heating), 2005 (lighting). SAP 2005 used as basis for checking compliance with UK Building Regulations Part L requiring conservation of fuel and power
- England & Wales Approved Document L1A New Buildings and L1B Existing Buildings & Extensions – DCLG 2006 Scotland Technical Handbook 6, Domestic effective May 2005, Reduced Data / RDSAP used for energy report and EPC's in HIP's

See also:

[www.bre.co.uk/sap2005](http://www.bre.co.uk/sap2005) & "A forward look at what standards may be in 2010 & 2013" – DCLG July 2007

### How a SAP is calculated

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

- 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 any openings in the dwelling
- the fuel used to provide space and water heating, ventilation and lighting
- renewable energy technologies

An HSR SAP assessor will make recommendations to achieve the required SAP rating and other suggestions for further improvement, also ensuring on completion of the build that the appropriate products and techniques specified at the design stage have been incorporated. This is to confirm and certificate the projected Target Emission Rate (TER) as the built Dwelling Emission Rate (DER).

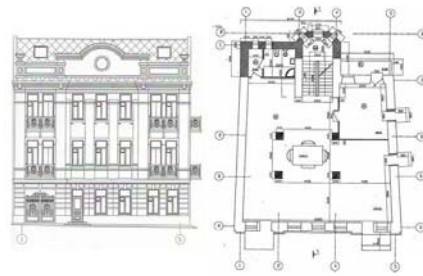
The calculation is independent of factors related to the individual characteristics of the household occupying the dwelling when the rating is calculated, for example:

- 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 a given dwelling has the same rating in all parts of the UK.

### Existing properties

The SAP calculation procedure for existing properties follows that for new dwellings. However, some of the data items are usually defaulted or inferred. The calculation is concerned with the assessment of the dwelling itself, as used by standard or typical occupants, and is not affected by the way current occupants might use it. For example, the living room calculation is based on the original design concept and not on the way the current occupants heat the room.



### Who We Are

HSR Ltd are leading independent providers of energy and environmental auditing and consulting services. We operate throughout the UK and offer specialist environmental services, energy assessments and certification, including Energy Audits, Energy Performance Certificates (EPCs) and Display Energy Performance Certificates (DECs).

