

## Potential for the High Weald

The High Weald has great potential for Passive Solar Design to be incorporated into new buildings, with the undulating landscape and wooded nature of the area often adding value to a PSD building.

## Introduction

Passive Solar Design (PSD) is all about integrating features into the design of a building that maximises light and heat capture, whilst protecting the building from weather and elements that would make the building uncomfortable therefore reducing the need for active heating and cooling.

Specific attention is directed to the site and location of the dwelling, the prevailing climate, design and construction, solar orientation, placement of glazing-and-shading elements, and incorporation of thermal mass / thermal buffers.

PSD can be used in conjunction with other technologies to create low or zero energy buildings.

- Even using a few PSD techniques within a new building will save energy. On average 20-25% of heating and lighting can be saved using PSD.

### How does it work?

The PSD features used in a building will vary according to the location and use of the building, however the following principles form the core PSD in temperate climates:

- Orientating the building to face the equator to capture the morning sun
- Extending the buildings length along the east / west axis
- Adequately sizing windows to face the midday sun in the winter and be shaded in the summer
- Minimising windows on the other sides of the building
  - Erecting correctly sized, latitude specific overhangs, or shading elements (shrub, fences, shutters etc.)
  - Using the appropriate amount and type of insulation, Including radiant barriers and bulk insulation to minimise seasonal excessive heat loss or gain
  - Using thermal mass to store excessive solar energy during the winter day (which is then radiated during the night).

### What about costs and maintenance?

As this is a very site specific science, often requiring detailed architectural advice / building design, the costs vary widely from project to project.

The inclusion of some of the common PSD design principles within any new building can considerably reduce energy bills.

## SWOT analysis

A SWOT Analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or business venture.

<b><u>STRENGTHS</u></b> <ul style="list-style-type: none"><li>• Can make significant energy savings</li><li>• At least some PSD concepts can be included in any new building</li></ul>	<b><u>WEAKNESSES</u></b> <ul style="list-style-type: none"><li>• May require specialist architects / designers</li><li>• Cannot be considered in retrospect</li></ul>
<b><u>OPPORTUNITIES</u></b> <ul style="list-style-type: none"><li>• Needs to be considered during initial design of a building</li></ul>	<b><u>THREATS</u></b> <ul style="list-style-type: none"><li>• Will involve planning issues</li><li>• May add significant cost to a building</li></ul>

## Planning Issues

### Planning within the High Weald AONB

The High Weald Unit's role is to interpret government policy in the light of the AONB Management Plan and to provide advice to local authorities and others regarding planning applications. The Unit also responds to consultations regarding new planning policy at national, regional and local level, again based on the Components of Natural Beauty identified by the Management Plan. The Local Council is of course the responsible body as regards the exercise of planning powers

Going beyond ensuring that residential buildings, in particular, enjoy adequate natural light and privacy, considering solar heat and light capture through the use of PSD has not been regarded as a normal planning matter and not something that can ultimately be defended at appeal. Where planning authorities have sought to apply PSD principles this has been done in the past by using Supplementary Planning Guidance, possibly with a reference in the local plan Development Plan.

PSD should be dealt with principally by way of LDD policy and guidelines. It does not readily lend itself to the use of planning conditions because it concerns the fundamental design of the building and cannot easily be dealt with by way of conditions.

## Further Information

Planning Policy Statement 22: Renewable Energy –

<http://www.communities.gov.uk/publications/planningandbuilding/pps22>

Planning for Renewable Energy: A Companion Guide to PPS22 -

<http://www.communities.gov.uk/publications/planningandbuilding/planningrenewable>

High Weald Management Plan - <http://www.highweald.org/text.asp?PageId=254>

## Useful contacts

District or Borough Council Planning Departments for the High Weald area:

<b>Horsham:</b> <b>01403 215187</b>	<b>Crawley:</b> <b>01293 438787</b>	<b>Mid Sussex:</b> <b>01444 458166</b> <b>(main switchboard)</b>
<b>Tandridge:</b> <b>01883 732859</b>	<b>Wealden:</b> 01892 653311 (main switchboard)	<b>Rother:</b> 01424 787600
<b>Hastings:</b> <b>01424 783300</b>	<b>Sevenoaks:</b> 01732 227000 (main switchboard)	<b>Tonbridge &amp; Malling:</b> 01732 844522 (main switchboard)
<b>Tunbridge Wells:</b> <b>01892 526121</b> <b>(main switchboard)</b>	<b>Ashford:</b> 01233 637311 (main switchboard)	

Centre for alternative technology – [www.cat.org.uk](http://www.cat.org.uk)

Renewable energy association – <http://www.r-e-a.net>

Carbon Trust – [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

Energy Savings trust – <http://www.est.org.uk>

## Potential Grant sources

Low Carbon Buildings programme – [www.lowcarbonbuildings.co.uk](http://www.lowcarbonbuildings.co.uk)

England Rural Development Programme – [www.seeda.co.uk](http://www.seeda.co.uk)

WARR partnership (LEADER) – [www.warrpartnership.org.uk](http://www.warrpartnership.org.uk)

High Weald AONB (Sustainable Development Fund) – <http://www.highweald.org>

Carbon Trust (Interest Free Loans) – [www.carbontrust.org.uk](http://www.carbontrust.org.uk)

Enhanced Capital Allowance Scheme – [www.eca.gov.uk](http://www.eca.gov.uk)