Sustainable Construction CPD

Module 4/15
Heating

CPD Programme by Gaia Research: Info from 0131 558 7227 and www.gaiagroup.org

Sustainable Building Design

Achieving sustainability requires us to live within the limits of the earth's capacity to provide the materials for our activities and to absorb the waste and pollution that our activities generate.

The construction, fit out, operation and ultimate demolition of buildings is a huge factor in human impact on the environment both directly; through material and energy consumption and the consequent pollution and waste, and indirectly, through the pressures on often inefficient infrastructure.

There is already a significant amount of information available to all professions on how to design buildings that are attentive to the needs of sustainable construction. But, most practice still falls radically short of applying even the most easily applicable principles in most projects. Opportunities that could bring real advantage are being missed every day. The result is that buildings and the industries which supply building designers with products, materials and services are less efficient, less economical and more polluting than they might otherwise be.

UK wide government Design Advice Scheme maintaining a list of qualified consultants who can provide free advice to designers and clients on sustainable design. Info at: 0800 585794

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The Ecology Building Society and the DTi

Department of Trade & Industry

Continuous Professional Development

This CPD module is the fourth in a series which will summarise the existing sources of best practice guidance on sustainable building design. These modules will not attempt to repeat what other documents contain, except to summarise the most important environmental issues.

Each module provides information on critical aspects of a particular topic and sources of further guidance by way of a concise bibliography. Case studies highlight best practice solutions to improve understanding and encourage implementation. Each module will be supplemented by seminars which will provide opportunity to discuss design projects in interdisciplinary groups with peers and specialists.

This document is intended to assist building designers to extend their existing skills so as to be better able to make informed decisions about heating design.

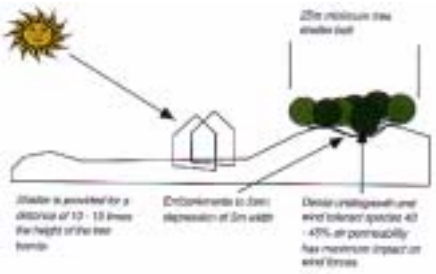
All designers attain at least a basic knowledge of underlying principles of thermal comfort, heat transfer and energy flows. However, this is not always readily translated into design practice. Recently the impact of climate change has been acknowledged and legislators have begun to make conservation of fuel & power a priority. An integrated approach to heating design is required which combines structure, form, orientation, systems and controls. It is more important than ever for the professions to work together. Aspirations need to be shared to achieve a good result which will work well in the long term.

There is a wealth of good quality guidance. However, there is little which highlights the priorities and directs the reader to the fundamental issues, contemporary tools & guidance which will assist and encourage them in implementing best practice. This concise document aims to summarise the information that is required and to inspire and enable the reader to find it, so that they are better equipped to deliver high quality buildings which have a low heating demand, efficiently met, and retain a positive affect on health and well being.

Objectives

By the end of this module the reader should be able to:

- Appreciate that well-designed heating can contribute significantly to energy efficiency, cost savings, well-being, spatial design and good architecture;
- Communicate to clients the importance of good heating to operational efficiencies, including economy, health and productivity;
- Access the guidance, tools, facilities and techniques available for good heating design;
- Understand that passive design has an important place in building design;
- Understand the importance of user control and maintenance issues;
- Appreciate an inter-relationship between heating design and other indoor environmental aspects such as material selection, lighting, cooling & ventilation strategies;
- Understand the benefits of working with other design disciplines to achieve good heating, especially at the crucial early stages.



Above:- Shelter provided by trees and topography - from Energy Conservation and Planning.
Top left photo: 5 star De Vere Grand Harbour Hotel, which takes heat from a District Heating scheme. Photo by kind permission of Southampton City Council.