

## **ENERGY AND RESOURCE EFFICIENCY**

It is well known that plants and animals have their own energy utilisation systems which have evolved over time and become economic and sustainable. Plants interact very effectively with the environment by exchanging energies and mass flow across their cuticles, of specific micro structures and functions to achieve perfect energy balance and high efficiency. Some animals' dwellings, such as termite mounds, also reflect models of optimised energy utilisation.

Nowadays human beings have become increasingly concerned by the shortage of energy resources and inefficient energy utilisation, which could hugely hinder industrial and world economic development.

Biomimetics can help to find solutions to improve energy and resource efficiency, and to provide appropriate models for developing sustainable energy systems. Possibly biomimetics approaches may help to improve: (i) building end-use energy efficiency; (ii) industrial/agricultural/water end-use energy efficiency; (iii) renewable and sustainable energy application; (iv) energy related environmental systems; and (v) the design of novel energy systems integration.

Key contact or links:

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Carbon Trust: <http://www.thecarbontrust.co.uk/carbontrust/>

Sustainable Energy: <http://www.defra.gov.uk/environment/energy/>

Centre for Sustainable Energy: <http://www.cse.org.uk/>

National Energy Foundation: <http://www.nef.org.uk/>