Key environmental principles of EU law
☐ Polluter pays
☐ If uncertain, take precautionary action
☐ Consider all ecological impacts
☐ Use best scientific information

THE EUROPEAN LEGISLATIVE FRAMEWORK

In essence, European actions to cut GHGs employ three strategies: improve energy efficiency; phase in new (low-carbon) energy sources; and tax pollution, as follows.

The Energy Performance of Buildings Directive (2002/3)

The EU Energy Performance of Buildings Directive (2002/91/EC), which came into effect progressively across the members states from 2006 to 2009, has far-reaching implications for the design, construction and management of buildings. The aim of the EPBD is to promote the improvement of energy efficiency in buildings and to ensure convergence of standards across Europe. The building sector accounts for about 40 per cent of the EU's energy requirements (although the pattern varies among individual member states), with the Directive identifying construction as having the greatest potential of any sector to achieve energy efficiency.

Fig 47
Integer House, near Watford, designed by Cole Thompson, explores new sustainable glass technologies.

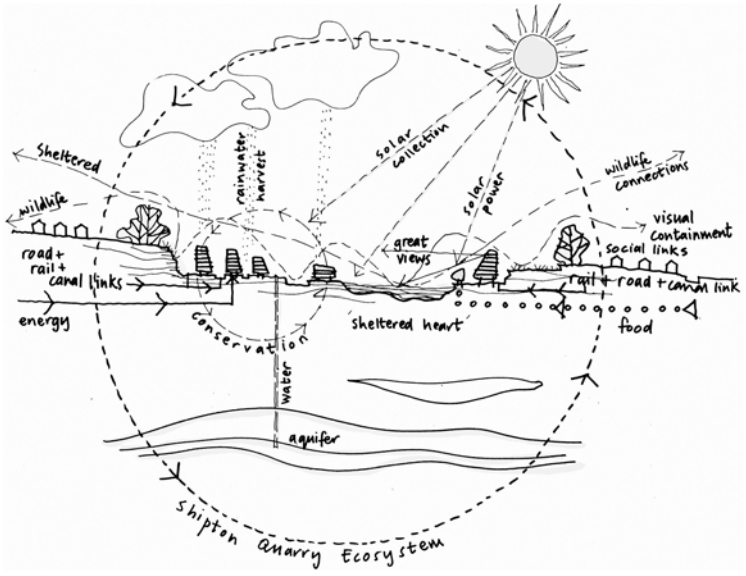

Fig 48
A new settlement for 6000 people, designed by Feilden Clegg Bradley at disused Shipton Quarry, Oxford.
Source: Feilden Clegg Bradley

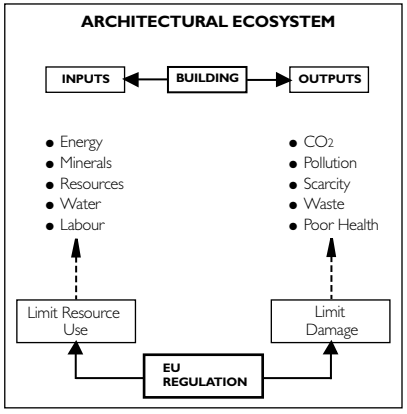

Fig 49
Architectural ecosystem and the role of EU regulation.

Fig 50
This house and office in London, designed by Bere Architects, sets high standards for low-energy and ecological design.
Source: Bere Architects

The two drivers behind the Directive were concerns over global warming (and particularly Europe's obligation under the Kyoto Agreement) and growing uncertainty over future energy security. With 70 per cent of domestic energy use being for heating, cooling and hot water requirements (and 50 per cent for non-domestic buildings) the EU signalled the importance of greater energy efficiency of buildings through the Directive. In fact, according the Green Paper *Towards a European Strategy for Energy Supply*,[1] the energy consumption of existing buildings could be reduced by 25–40 per cent by 2020 (compared with the 20 per cent as planned by most member states including the UK). And the European Environment Agency (EEA) has argued that, by 2030, savings of 50 per cent are possible via improvements in the design of new buildings and higher standards in the refurbishment of older property. By 2050 there is also the broad aspiration to reduce Europe's total CO_2 output by 80 per cent over current levels.

The EPBD, which applies to new and refurbishment projects:

- establishes a common basis for calculating energy performance
- sets minimum standards
- introduces 'energy performance certificates' (EPCs)
- requires heating boilers and air-conditioning plant to be inspected regularly.

The Directive falls a long way short of the target of carbon-neutral development across Europe. However, the display of energy ratings on buildings using the display energy certificates (DECs) or energy performance certificates (EPCs) for smaller buildings required under the Directive has done much to encourage awareness of energy efficiency in both publicly owned and private property.

The Directive also requires that all new housing, and older housing at the point of sale, will have to disclose the predicted energy performance to potential buyers. By making energy use calculations consistent (in the UK, by using the SAP method) and more readily understood, the Directive has encouraged builders to use higher levels of fabric insulation as well as controlled ventilation, condensing boilers, passive solar heating and intelligent glazing technologies.