

Below is an excerpt from the Environment Agency's [online guide for developers](#).

Sustainable construction

Summary

Sustainable construction concerns more than just the fabric of buildings; it includes all of the environmental issues covered in this section.

Building, maintaining and occupying homes accounts for almost 50 per cent of the UK's carbon dioxide emissions. New developments provide an excellent opportunity to build homes and offices that are better for the environment and have cheaper running costs.

The design of a development can influence the lifestyles of the users. Along with the location, layout and orientation of a building, design can have a profound effect on the environment.



Efficient use of resources

We welcome new developments that incorporate energy efficiency. To tackle climate change, we urgently need to reduce energy use by adopting more efficient technologies. We also need to generate energy from sources that release far fewer – or no – carbon dioxide emissions. We support this increase in renewables, but only if it happens in an environmentally sensitive way as they can have impacts on biodiversity, landscape, transport and air quality.

Including energy and water efficiency measures in your development will mean the occupiers can have homes that are more affordable to run. Homebuyers are increasingly interested in the environmental performance of their homes. Research conducted in 2004 revealed that 84 per cent of homeowners are willing to pay an extra 2 per cent for a property with a good eco-home rating (CABE, WWF and Halifax research).

Our own research has highlighted the cost benefits of building homes to higher environmental standards. It has shown that improving an existing home's resource efficiency by 25 per cent could cost £800, but save approximately £138 a year in utility bills. This was achieved largely through improvements to energy efficiency, as waste and water efficiencies are achieved at little or no cost.

Energy Performance Certificates

Energy Performance Certificates (EPCs) are energy ratings for homes, similar to consumer-friendly 'fridge ratings'. They will be compulsory as part of Home Information Packs from 1 June 2007.

The certificates will outline the costs of heating, hot water and lighting in homes and give practical advice on how to cut these costs and reduce emissions.

It is far better to build above the minimum standards so that energy can be reduced over the building's lifetime. It will cost you more to bring existing buildings up to standard later on by retrofitting extra insulation. Apartment buildings may be suitable for combined heat and power schemes, and other forms of renewable energy generation. On a smaller scale, green roofs can keep the building cool in the summer and provide thermal insulation in the winter. They can be constructed largely from demolition waste, such as crushed brick. Whatever the size of the development, the arrangement of buildings can help make the most of solar energy and reduce exposure to the cold.

There are large environmental benefits to be gained from using the ground as a source of heating and/or cooling for buildings, providing the risks of groundwater pollution are addressed.

Quality

Many buildings will be adapted for a different use later on in their life. Although we cannot anticipate what this will be for, it is more practical to renew and adapt buildings if they were originally built of good materials and to an appropriate quality for their anticipated lifetime.

Quality is a benefit to the built environment. Building to a high quality will reduce wasting resources.

Public transport links

You should provide good public transport links to your site to encourage people to use their cars less. Talk to the local planning authority to make sure there is sufficient public transport to and from your site, and see if you can link your development to their green travel plans.

Life-cycle thinking

There are many gains from reviewing your supply chain before embarking on a major construction project. It can help you to source better-sized materials, higher specification products and those with less packaging waste. You could switch to 'take back' schemes for transit packaging.

The Government is developing a code for sustainable homes to improve the way homes are built and run. There will also be a new planning policy statement on climate change. We encourage you to embrace life-cycle thinking by using materials and construction techniques that are more resource efficient. This means using materials that have minimal impacts during construction and use, but also minimal end-of-life impacts. Using them will enhance your project and your reputation