



## Sustainable Construction

# Making Your Windows Environmentally Friendly and Energy Efficient

If incorporated into the building at the design stage, many of the following tips will cost little or nothing to install and, like many energy efficient measures, will pay for themselves in a short time by helping to keep your heating and lighting bills lower.



### **Achieving Passive Solar Gain**

Incorporate large windows on the south side of the building to make the most of the heat and light from the sun. Smaller windows on the north facing side of the building help reduce heat loss.

Locate rooms that you use most frequently on the south side of the building. The sun's warmth and light will reduce the need for additional heating and artificial lighting.



### **Choosing Your Frames**

Window frames made from timber will require a little more maintenance than frames made from other materials, but are better for the environment as timber is a sustainable resource. In addition, these frames can be more easily repaired and recycled than frames made from other materials.

Choose locally sourced timber where possible. At least be sure the timber has come from sustainably managed woodlands and is approved by the Forest Stewardship Council (FSC).

Use ecologically friendly timber preservatives, paints and stains.

Use a good quality sealant between the frame and the glazing unit, as any air gaps will reduce the thermal benefits of the glazing.



## Choosing the correct Glazing

To improve the thermal performance of existing windows, upgrade with additional glazing or apply low emissivity coatings(which reflect heat back into the building).

Double-glazing significantly reduces heat loss. Triple glazing and low emissivity glazing provides a further reduction in heat loss and hence heating bills.

Low emissivity glazing increases the proportion of heat reflected back into the room by up to 18%.



## FURTHER CONSIDERATIONS

South facing, conservatories are ideal for capturing sunlight and heat. However, when it is cold or dark, ensure that the house can be closed off to the conservatory, as artificially heating a conservatory will waste more energy than it saves.

Consider the position of trees and shrubs outside. Their shading may adversely or beneficially affect the amount of light reaching the windows.

A radiator positioned beneath a window will be inefficient if the curtains overhang the window ledge as much of the heat will be lost through the glazing. To overcome this, ensure that the bottom of the curtain sits on the ledge to allow the heat to deflect back into the room.

Thick, quilted or reflective curtains can effectively increase window insulation.

Ensure windows can be opened to provide the simplest and cheapest form of ventilation.

These are guidance notes only and should not be taken as rules. In order to maximise the benefits to yourselves and minimise impact on the environment, it is recommended that you seek professional guidance before embarking on a project of this nature.

For further information contact:

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