

Materials Information Sheet

Why do materials matter?

The materials used to build our homes can have significant health and environmental impacts. These often extend far beyond the end-use for which the materials are designed. Usually the impact of a given material is dictated by the processes used to extract, process and transport it to the site. These are not always obvious.

What should I consider when selecting the materials for my house to minimise my environmental impact?

Materials should be strong and long lasting. They should be low maintenance and free of toxins that could affect your indoor air quality.

Life-cycle

Inferior materials often have a short life and require on-going maintenance or replacement. Select materials with the total life cycle of your home in mind. Most homes are built to last for at least 50 years, the best homes last for hundreds of years. Some commonly used materials may last for only 10 to 15 years. They will need replacing or repairing at least two to three times in the life of your home, at great cost to you and the environment.

Embodied energy

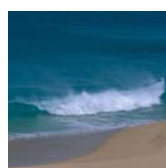
Energy is required to make all building materials, but some require less energy than others. The energy used to collect raw materials and manufacture products is called embodied energy. Low embodied energy materials are preferable in many cases.

Recycling

Can you reuse materials like timber, bricks or windows that are recycled from other buildings? Encourage or even help your builder to sort and recycle the waste materials from your building site. It can save you money and help the environment.

Buy local

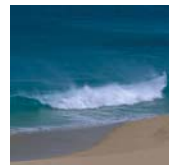
Try to find building materials made and sold locally. Long distance transportation is expensive and wastes energy.



Using low impact materials in your home

Informed decisions about materials and constructions systems can reduce the environmental impact of a home without adding to the cost. Consider the following points when you speak to your designer or builder about the materials to be used in your home:

- Make more efficient use of existing materials
- Minimise the amount of on-site waste
- Use materials with the least environmental impact
- Consider both operational and whole lifecycle performance of materials and designs
- Use fully recycled materials or materials with recycled content
- Re-use whole buildings or parts thereof to minimise consumption of new materials
- Choose materials with a lifespan equivalent to the projected life of the building
- Design to extend building lifespan (current average is 50 years – aim for 100)
- Design and build for de-construction, re-use, adaptation , modification and recycling
- Encourage development of new-efficient, low impact materials and applications by creating demand
- Consider how and where the materials are sourced and the impacts this causes
- Minimise the energy used to transport materials by using locally produced material. Use of lightweight material where appropriate also reduces transportation energy
- Minimise the energy used to heat and cool the building by using materials that effectively modify climate extremes
- Understand how chemicals used in the manufacture of some materials might affect your health
- Minimise or eliminate emissions during use and manufacture



Source: Your Home Design for Lifestyle and the Future, technical manual (a joint initiative of the Australian Government and the building and design industries)