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Energy Efficient Homes

House Design

A major principle of energy efficient homes is to allow the sun's heat into the home in winter while excluding it during the long, hot days of summer.

- ▶ Orientate your home's rooms correctly e.g. living rooms facing north.
- ▶ Insulate ceilings and walls.
- ▶ Use correct window design and treatment.
- ▶ Use natural ventilation.
- ▶ Use appropriate shading (eaves, pergolas, trees).

Orientation

Orientate your home correctly and use passive solar design principles to take advantage of natural heating and cooling.

- ▶ Locate your window areas appropriately, and shade them enough to block summer sun whilst allowing in winter sun.
- ▶ Position windows and doors to maximise natural breezes in summer.

Insulation

Insulation is essential for keeping your house warm in winter and cool in summer, and can save up to 60% of your heating and cooling bills. Different insulation products provide different benefits.

- ▶ Install the right type and amount of insulation - the greater the 'R value' the better the thermal performance of the insulation.
- ▶ Insulate in conjunction with passive solar design principles.

Glazing

Design window sizes and position correctly for comfort. If not designed correctly, your windows will make your house too hot in the summer and too cold in the winter. Follow the tips below to help maintain year-round comfort levels, without having to switch on the heater or air-conditioner:

- ▶ Use larger northern windows for winter heating.
- ▶ Minimise eastern and western facing windows.
- ▶ Natural lighting is desirable and can save energy.

- ▶ Consider high performance windows such as double glazed or tinted windows.
- ▶ Correct window treatment can add considerably to energy performance.

Shading

- ▶ Appropriate external shading for windows and walls can limit the heating effects of the summer sun.
- ▶ Provide enough eaves to block summer sun whilst allowing in winter sun.
- ▶ Use plants and trees to provide shade where possible – deciduous trees block summer sun whilst allowing in winter sun.
- ▶ Pergolas that are designed correctly make for comfort inside and outside the home.

Ventilation

Ventilation can keep your house naturally cool in summer as well as improve indoor air quality all year round.

- ▶ Position windows and doors to catch breezes and channel air through each room.
- ▶ Install ceiling fans.

Appliances

It is important to choose energy efficient appliances as they reduce energy costs in the home.

1. Hot water systems
2. Fridges
3. Air-conditioners
4. Heaters etc.

Hot water systems

Water heating accounts for more than one quarter of the average Australian home's energy use and can cost in excess of \$400 a year:

- Reduce your bills by using the natural energy of the sun.
- ▶ Install a high efficiency solar hot water system.
 - ▶ Cash rebates are now available.

Refrigerators

Your fridge can account for a significant proportion of your costs per year to run.

Save energy by purchasing a high star-rated fridge.

- ▶ Buy an energy efficient fridge.
- ▶ Check the energy label.
- ▶ Buy the right size to fit your needs.
- ▶ The more stars, the more energy efficient.

Cooling

Keep your home cool in summer and save energy.

- ▶ Cool your home naturally as much as possible by designing it to use natural, cooling breezes and shading.
- ▶ Consider installing fans.
- ▶ Choose an efficient model of air-conditioner.
- ▶ The more stars, the more you save.

Heating

Save energy and money.

- ▶ Naturally heat your home by designing it for passive solar heating.
- ▶ Seal all windows and doors to prevent draughts and heat loss.
- ▶ If extra warmth is required, use a gas instead of electric heater.
- ▶ Gas and reverse cycle heat pumps carry energy labels.
- ▶ The more stars, the more you save.

More information

If you want more information about energy efficient homes, choosing energy efficient appliances or advice on keeping your home warm in winter or cool in summer, simply phone the Energy Smart Line on 1300 658 158 or visit the Sustainable Energy Development Office's web site at www.sedo.energy.wa.gov.au