

Environmentally Sustainable Design and Energy Efficiency Information Sheets

Information Sheet – General Tips for Building an Environmentally Sustainable and Energy Efficient Dwelling, or Dwelling Addition

In order to improve your dwellings energy efficiency and reduce operating costs, consider the following when orientating and designing your dwelling (or addition):

- **Orientation**

- Orientate those rooms which you spend more time in, such as the living room, towards the north, so that they can be exposed to more sun and light
- Position utility areas, such as bathrooms and laundries (where typically less time is spent) to the south or west side of the dwelling



- **Living areas**

- Open plan living is very popular, but larger spaces require greater levels of heating and cooling. Consider having the ability to close off living areas as required.

- **Eaves**

- Installing eaves over north facing windows will assist with reducing sun exposure in the summer to keep your dwelling cooler and increasing sun exposure in winter to keep your dwelling warmer.



- **Verandas and pergolas**

- Install verandas or pergolas to assist with shading of windows and outdoor spaces



- **Zoning**

- Grouping rooms with similar uses together is known as 'zoning' – grouping living rooms, bedrooms and wet areas can enable more efficient heating and cooling

- **Rainwater Tanks**

- Install rainwater tanks connected to toilets, laundry and the garden to enable reuse of water



- **Glass**

- Too many windows or glass doors can make your dwelling hot in summer and cold in winter. Consider limiting the amount of glass on the eastern and western sides of your dwelling.



- **Cross Ventilation and Natural Cooling**

- It is important to position windows so that they allow for cross ventilation and air flow throughout the dwelling to enable a cooler space during summer

- **Internal temperature**

- A metal roof can help to reflect sunlight, and assist with reducing internal temperatures
- If used in the right areas of the dwelling, the thermal mass of brick, stone and concrete can help to absorb and store heat during winter.



- **Insulation**

- Using insulation in the walls, ceilings and floors can assist with reducing heat loss and maintaining a comfortable living environment
- Using pelmets when installing curtains or blinds can help to improve window insulation



- **Lighting**

- Installing LED lighting (while slightly more expensive than other lighting) can save as much energy as fluorescent lighting, and can last up to three times longer, meaning you won't need to change globes as often.



- **Colour**

- Using lighter colours on your external roof and walls can help with internal comfort. Lighter colours help to reflect heat and enable your home to be cooler in the summer.



- **Solar panels**

- Install solar panels to assist with reducing your electricity bills and your carbon footprint. Solar panels use the heat from the sun to produce energy to power your home.
- In Australia, solar panels work best when they are facing north, as this is the optimum direction for catching sunlight. North facing solar panels generate more electricity, which in turn assists with lowering energy bills.

