FACT SHEET

DESIGNING FOR QUEENSLAND'S CLIMATE

'Passive Design" refers to a design approach that takes advantage of the climate and other building elements to reduce the need for auxiliary heating and cooling and ultimately reduce greenhouse gas emissions.

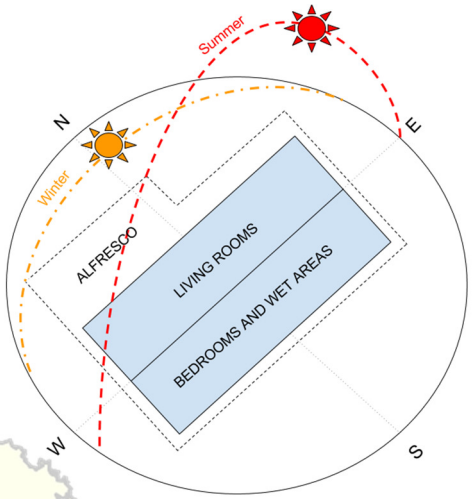
Nicknamed 'The Sunshine State', Queensland's climate is generally categorised as ranging from warm to hot for most of the year. Focus therefore should be aimed at cooling the home wherever possible, to eliminate having to switch on the air conditioner.

ORIENTATION

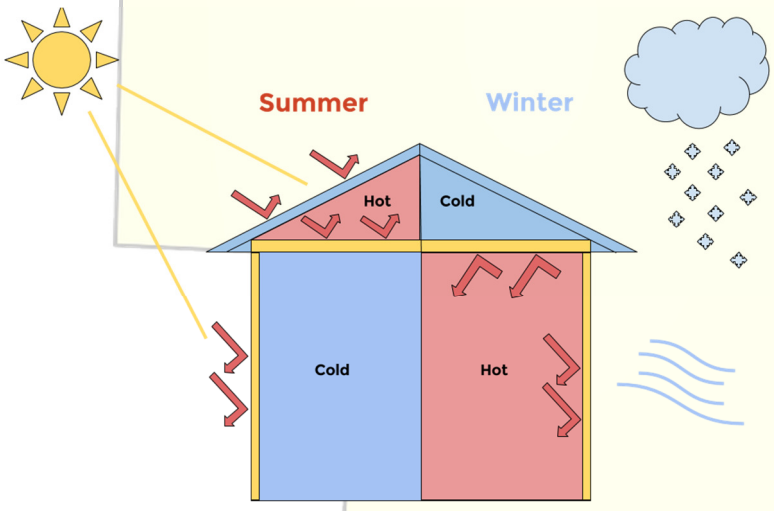
Northern orientation (with appropriate levels of shading) is best practice in QLD.

Living rooms should be configured so that direct sunlight is minimised during summer, but also maximised in winter, allowing solar access from the lower northerly sun path.

An appropriately located alfresco and wide eaves can assist in shading windows and walls.



INSULATION

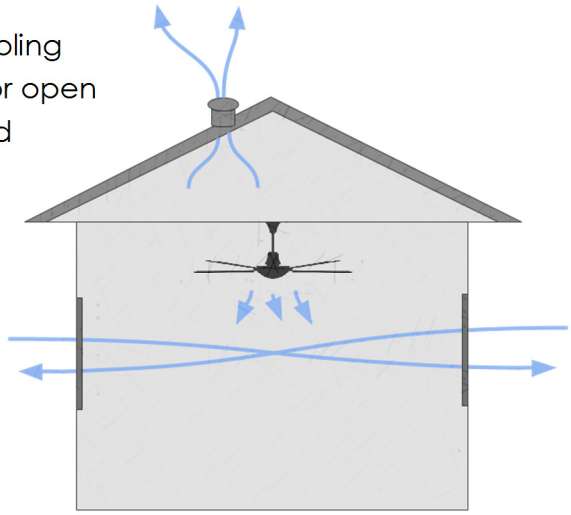


Insulation is extremely important for thermal comfort. It acts as a barrier to heat flow and is essential to keep your home warm in winter and cool in summer. All insulation material, either bulk or reflective, has an R-value which is the resistance to heat flow. The higher the R-value, the higher level of insulation properties.

A combination of insulation materials is recommended in QLD. Reflective foil should be installed to the roof and external wall cavities to reflect radiant heat. Bulk insulation should also be installed to the ceiling to trap the heated air.

CROSS VENTILATION AND AIR MOVEMENT

Air movement is the most important element to passively cooling your home. Houses in QLD should be designed with narrow or open plan layouts to allow for cross ventilation through unrestricted breeze paths.



Windows with high open ability such as awnings and louvres and doors such as bifold or stackers, will assist with this.

Ceiling fans are a good back-up during still conditions and roof spaces should also be ventilated to reduce both heat and moisture build up.

COLOURS

The colour of a wall or roof is represented by its solar absorptance value, which is an indicator of the colour's ability to absorb the suns radiation. Light coloured materials with a solar absorptance of less than 0.4, keep cooler than darker colours as they have a higher heat reflection.

The specific colour of construction materials can have a major impact on thermal performance however this factor is often overlooked when selecting colour schemes.

Whether you are building with exposed brick, rendered cladding, Colorbond steel roofing or concrete roof tiles, when it comes to colour selections, choose light colours where possible.