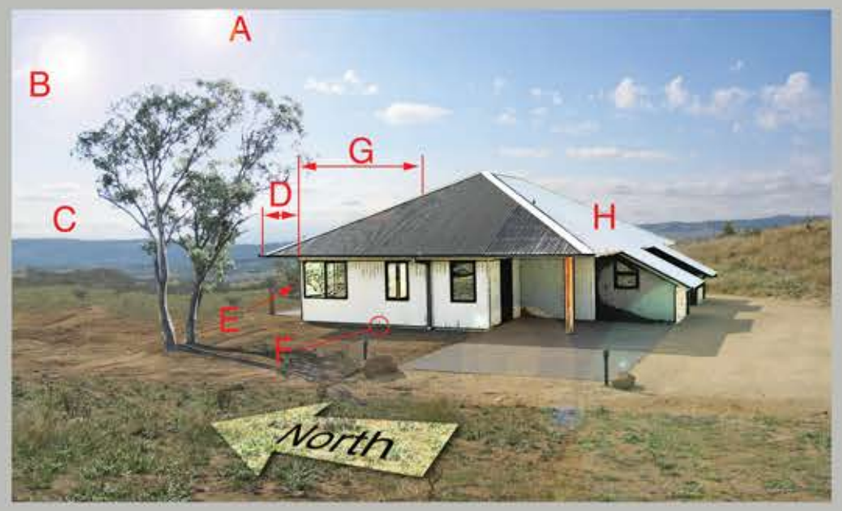
ENERGY EFFICIENT BUILDING

Australia has a diverse landscape, which for residential houses is spilt into eight climatic zones*. Energy efficient design promotes a comfortable living space by exploiting site specific environmental advantages, whilst minimising the impact of any disadvantages. Free heating, cooling and ventilation effects are important considerations, as is avoiding any overburden on energy consuming devices during adverse climatic periods. *As per Building Code of Australia, 2008

Windows and glazed doors are Increasing in size within residential buildings. With typically lower levels of insulation than solid walls, the potential effects on energy efficiency are real. Consequently, style, size and placement of such glazed products are subject to many considerations, some of which are:

-The ability to admit daylight (to minimise artificial lighting)
-Solar heat gains (*FOR* - benefit in passive winter heating; *AGAINST* - need to be controlled in summer)
-Cross-ventilation (exploits dominant desirable breezes for cooling)
-Night time ventilation (takes advantage of cooler overnight temperatures)
-Insulation (single glazing vs double glazing; low emissivity coatings)
-Views & landscapes that can be accessed from within the residence

Ultimately, a good design will be one with the appropriate balance that best suits the site *and* the users of the building. With so many variables this can be a complicated process, best resolved by an appropriately trained professional.



The above residence has been designed for south eastern Australia - a 'heating' climate. In summer when the sun sits higher in the sky (A) than winter (B), appropriate eaves (D) shade main living areas from heat. In winter they permit sunshine to warm the interior. To the west eaves protect smaller windows (E) from the afternoon summer sun. Deciduous trees (C) block the sun in summer; whilst in winter the lack of foliage allows sunlight to pass. The residence has been oriented with living areas (G) to the north. Dark tiles and polished concrete floors assist the slab (F) to absorb heat for thermal mass. Daytime heat can thus be stored for the night. The sleeping areas (H) to the south have been carpeted.

Solar Solutions are an award winning building design company based in Melbourne. Many designs by Solar Solutions have included double glazed Rylock windows and doors, including those shown above and right.

The above project was the recipient of the 2007 BDAV "Best Energy Efficient Design – Residential" award. To the right is the project that earned the "HIA-CSR Victorian Building Designer of the Year" title. Rylock is proud to be associated with this award winning design practice.

www.solarsolutionsdesign.com.au

For more detailed information on energy efficient building, consult with your Architect or Building Designer, or visit the Government websites listed on the panel to the right.

www.yourhome.gov.au
www.resourcesmart.vic.gov.au
www.nabers.com.au

Winter heat-loss table, outlining options available to improve heat retention within your home.