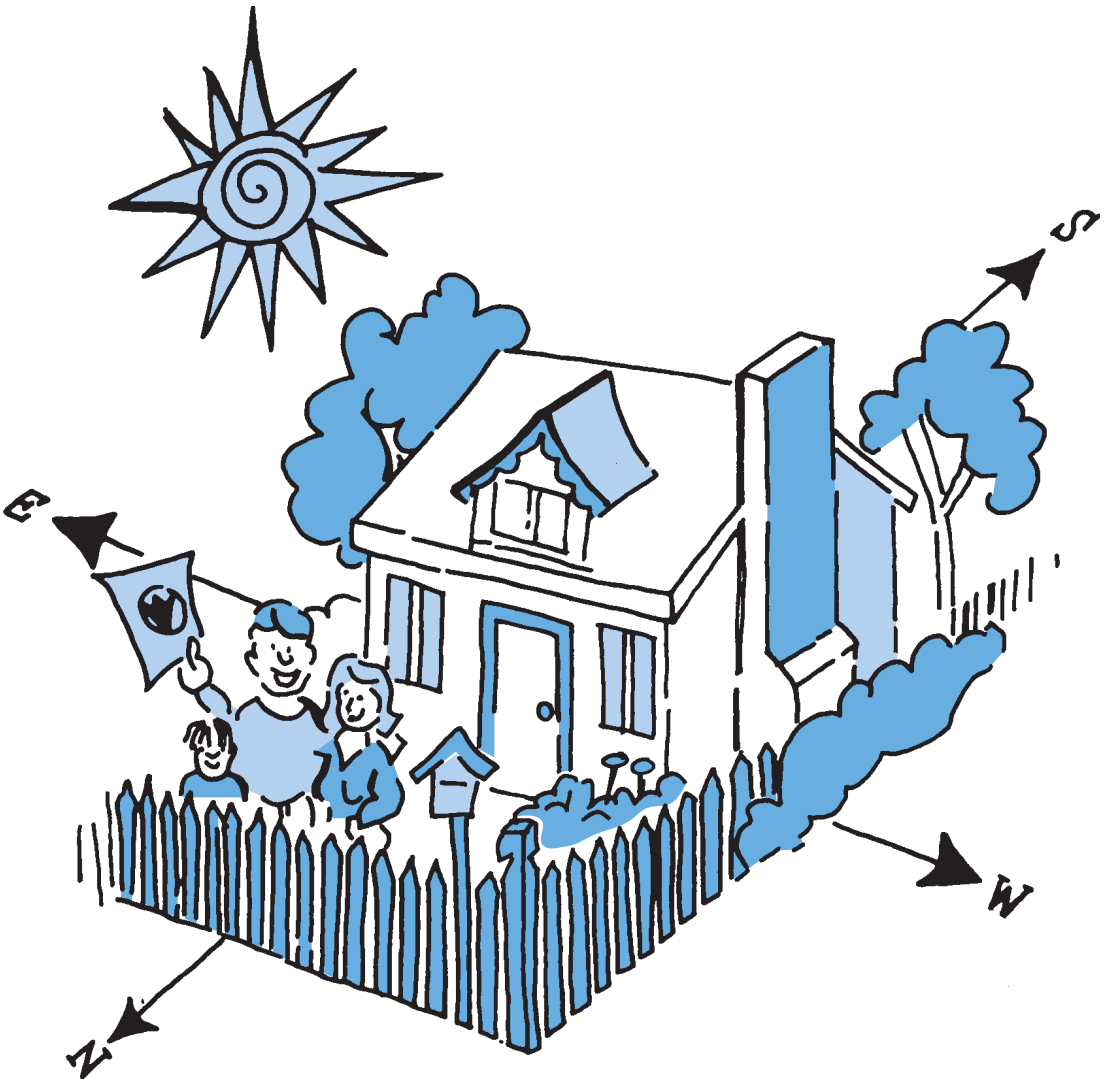
live ENERGY SMART™
A NSW GOVERNMENT INITIATIVE

Energy Smart house design



Designing your home for energy efficiency will help you **live more comfortably and save money!**

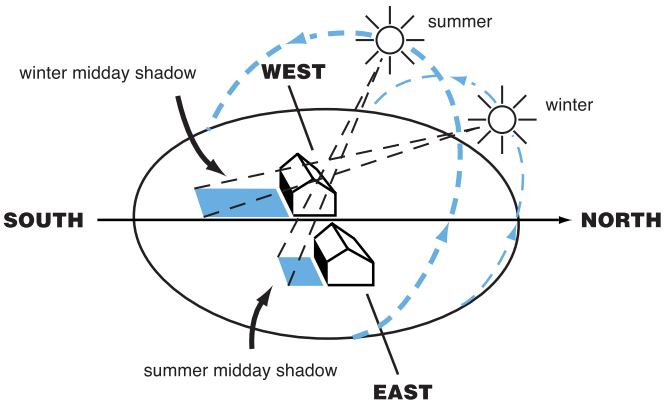
An Energy Smart home takes advantage of the sun's free warmth and light, with simple design features to keep it warm and comfortable in winter, and cool in summer.

If you are about to build a new home or renovate, this brochure explains the important features that will make your home Energy Smart.

Energy Smart house design

Choosing a block

- Blocks which have clear access to the low-angled winter sun are best.

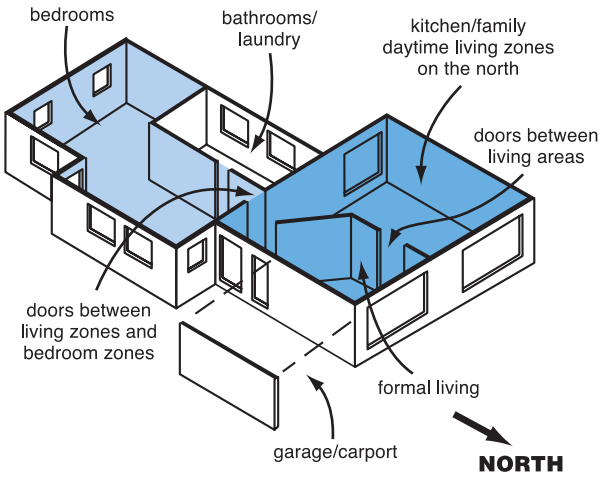


Consider your climate

- Climate and geographical location will influence your choice of building materials and your building design.
- NSW contains several different climatic zones; from temperate through to subtropical. (Use ESIC to find out what building materials best suit your climate).

Internal planning and room placement

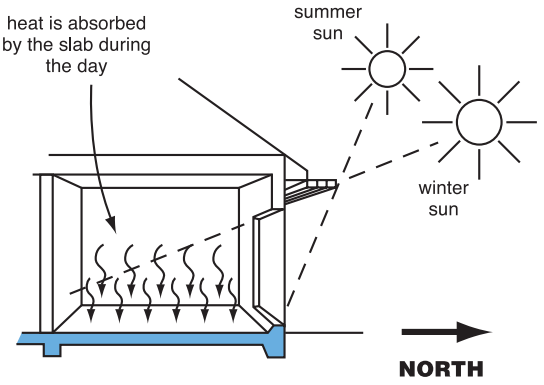
- Place living areas, such as the family room, kitchen, lounge and dining room to the north of your home.
- If there is insufficient space for all of them, at least place day living areas to the north.
- Create zones by grouping rooms with similar uses together, separated by doorways.



- Group together rooms that use hot water, to ensure more efficient use of your hot water system.
- Avoid open plan living areas or high ceilings as these can lead to high heating costs. Maximum ceiling height should be 2.7 metres.

Building materials

- Concrete floors and masonry walls (such as cavity brick or feature brick walls) can stabilise

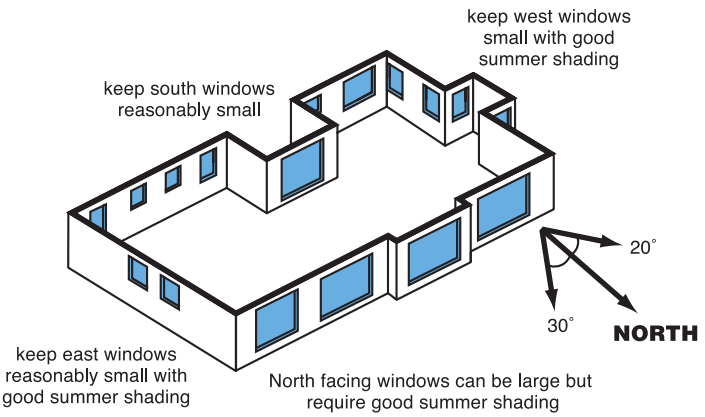


temperatures in rooms with a north-facing window by providing thermal mass to absorb heat in winter.

- Lightweight materials such as timber or plasterboard, used internally will allow rooms to heat up quickly and to cool down quickly (this is useful for rooms which require occasional heating) or in tropical climates where the house is cooled down by opening doors and windows.

Window placement and sizing

- The size and position of windows should be carefully planned according to the direction they face and the type of building materials used in the home.
- Cross ventilation from cooling summer breezes can be achieved by well positioned windows that can be opened. Double hung, casement or sliding windows are more effective than awning units.



Window protection

Summer shading

- External shading devices are a very effective way of keeping your house cool.
- North, east and west-facing windows should be shaded from the sun by vertical shading devices such as external blinds or shutters.
- North-facing windows can also be shaded by suitably designed eaves or pergolas which provide access for the winter sun, whilst providing shade from the summer sun.

Winter protection

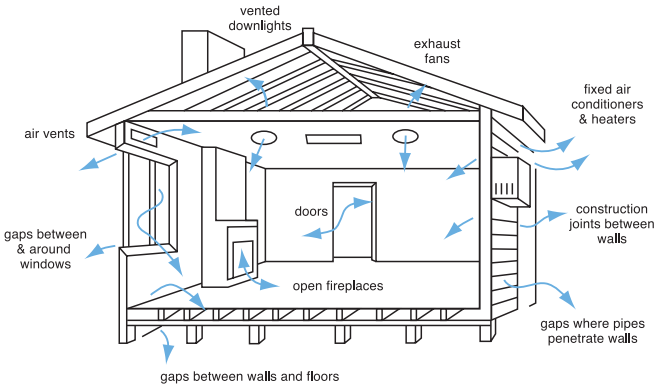
- Heat losses can be cut by using:

  a) high performance windows, or

  b) close fitting drapes or blinds that trap a layer of insulating still air between them and the glass when closed. Pelmets are usually required.

Air leakage and draught control

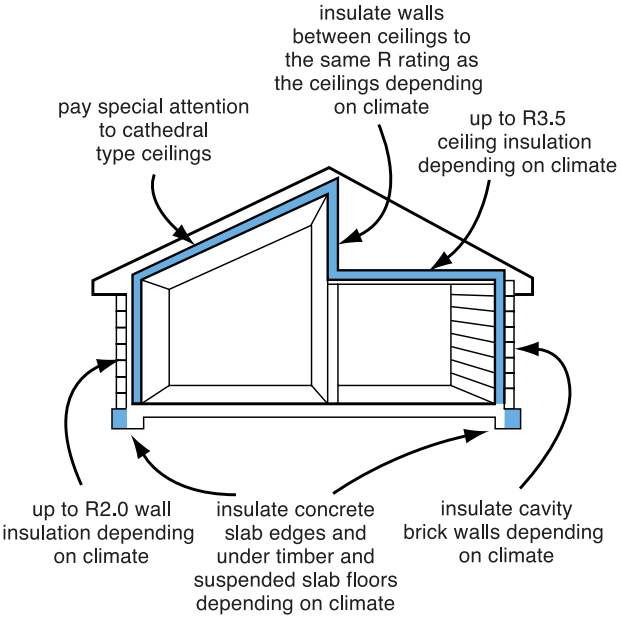
- Prevent these common sources of air leaks:



Insulation

Insulation is the single most effective item you can add to your home to improve its energy efficiency. It will keep you up to 10°C cooler in summer and 5°C warmer in winter.

- Insulate all ceilings, walls and raised floors.
- Consider the use of sarking to minimise summer heat gain.
- Consider insulating slab edges in cold climates



Heating systems

- Having the flexibility to heat individual zones of the home with energy efficient heaters is the key to a comfortable, cost effective system.

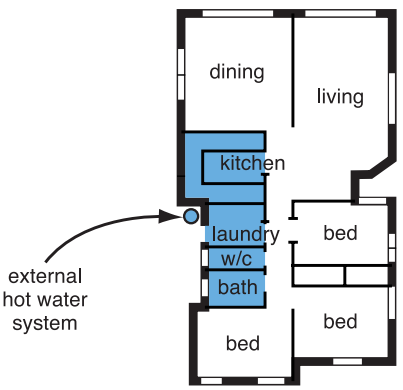
Lighting

- Make good use of natural light (particularly from north-facing windows). Light coloured walls and ceilings will help.
- Use Energy Smart compact fluorescent lights in living areas.
- Install separate switches for each light.

Hot water

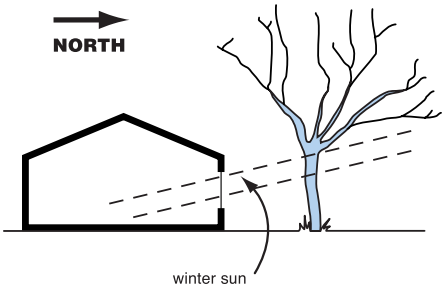
These simple measures can reduce your hot water bills by up to 70%.

- Install an energy efficient hot water system as near as possible to the kitchen, bathroom and laundry.
- Insulate hot water pipes, use efficient appliances and AAA rated shower heads.
- Consider using a gas solar system. These systems will reduce Greenhouse emissions by over 75% when compared to a standard electric off-peak system and will cost less to run.



Landscaping

- Deciduous trees on the north side of the home allow the entry of sunlight in winter and provide shade in summer (take care to choose trees that will not block sun to solar collectors).



The next step

If you wish to incorporate Energy Smart design principles into your home, it is important to obtain expert advice. Contact the Energy Smart Information Centre for more information about Energy Smart builders, designers and products.

House plan energy consultation

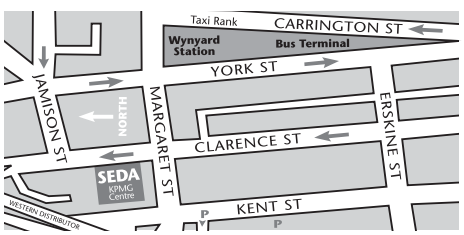
Contact the Energy Smart Information Centre to receive independent advice on the energy efficiency of your proposed new home, extension or renovation.

House energy rating

Homes can be assessed for their energy efficiency using a sophisticated computer program and given a star rating. The more Energy Smart the home, the higher the star rating, with 5 stars being the most energy efficient. Accredited House Energy Rating Assessors can assess your house plans and provide a written report with:

- a star rating (from 1 to 5);
- suggested ways to improve energy efficiency and increase your star rating;
- To obtain a list of Accredited Assessors contact the House Energy Rating Management Board (HMB) on Phone: 02 9385 5593, Fax: 02 9385 4507 or www.hmb.net.au.

The Energy Smart Information Centre is a free advisory service provided by the NSW Government. Energy experts can provide information on a wide range of topics including Energy Smart design for new homes and renovations, appliance selection, solar and wind power systems, choosing heating and cooling systems, insulation, lighting and water saving devices.



Trains: Wynyard Station is 3 mins walk away.
Buses: York & Carrington Sts adjacent to Wynyard Park.

Travel to SEDA by public transport to save greenhouse gas emissions.

SEDA

www.seda.nsw.gov.au

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Energy Smart Information Centre
Sustainable Energy Development Authority
Level 6, 45 Clarence Street, Sydney
PO Box N442, Grosvenor Place, NSW 1220
Telephone 1300 138 638, or (02) 9249 6125
Facsimile (02) 9290 3483
Email esic@seda.nsw.gov.au
www.energysmart.com.au