

Renovating Your Home

If you are about to renovate or extend your home, you can make this major investment more energy efficient and comfortable. By incorporating simple design features into your renovation, your home will be warmer in winter and cooler in summer, and you'll have smaller energy bills.



What Makes A Renovation Energy Smart?

To make your renovation energy efficient, the two major components to consider are:

- The building design itself, and
- The fixtures used.

Building Design

Ensure living areas face north to take advantage of the winter sun and natural light. Ideally, the family room, kitchen/meals area, lounge, dining and rumpus rooms should all face north. Bedrooms, the study and utility rooms can be located on the east, west or south sides of the home. Clever renovation design can compensate for a badly oriented building so seek expert advice.

- Separate informal and formal living areas and sleeping areas with doors, to allow you to use a space heater or a zoned central heating system to heat only the occupied rooms.
- Separate the renovated, more energy efficient section of the home from the old section with a door.
- Keep 'wet' areas (kitchen, bathroom, etc) together. Shorter water pipe runs will result in a more efficient hot water system and lower plumbing costs.
- Try to keep ceiling heights to a maximum of 2.7 metres.
- Install ceiling sweep fans in rooms with ceilings higher than 2.7 metres to circulate the air that collects near the ceiling.
- Ideally, stairwells should be located in a separate hallway or section, which can be closed off from heated rooms by doors.

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 and cool down quickly.

Window Size And Placement

Windows provide little insulation and allow significant heat loss in winter and heat gain in summer. It is important to have the right size windows in the right places to allow the winter sun in, and to keep the summer sun out.

Allow cross-ventilation in the house to eliminate the need for air-conditioning. Try to keep short, direct paths between windows. Use casement, sliding or double-hung windows.



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Fixtures

Windows

Reduce heat loss through windows with lined, close fitting drapes, tight-fitting Holland or Roman blinds with pelmets; or double glazing. Shade north-facing windows in summer with extended eaves or pergolas, external blinds, awnings or shutters. For east and west-facing windows use external blinds, awnings or shutters.

Unprotected skylights and roof windows can be a major source of heat loss in winter and heat gain in summer. To avoid this problem keep skylights as small as possible, install double glazed skylights or have a diffuser fitted at ceiling level and have a shading device where possible.

Draught Proofing and Weather Sealing

Look for obvious gaps - visible light under and around doors and windows or moving curtains. Focus on external doors, windows and doors to ventilated areas such as toilets, bathrooms and laundries.

Heating Systems

The most efficient and cost effective way to heat your home is to use one or more space heaters or a zoned central heating system. Choosing an appropriate heating system is a complex task, as factors such as the size and condition of existing systems, ceiling heights and room placement must be taken into account.

Hot Water Systems

If you need a new hot water system as part of your renovations:

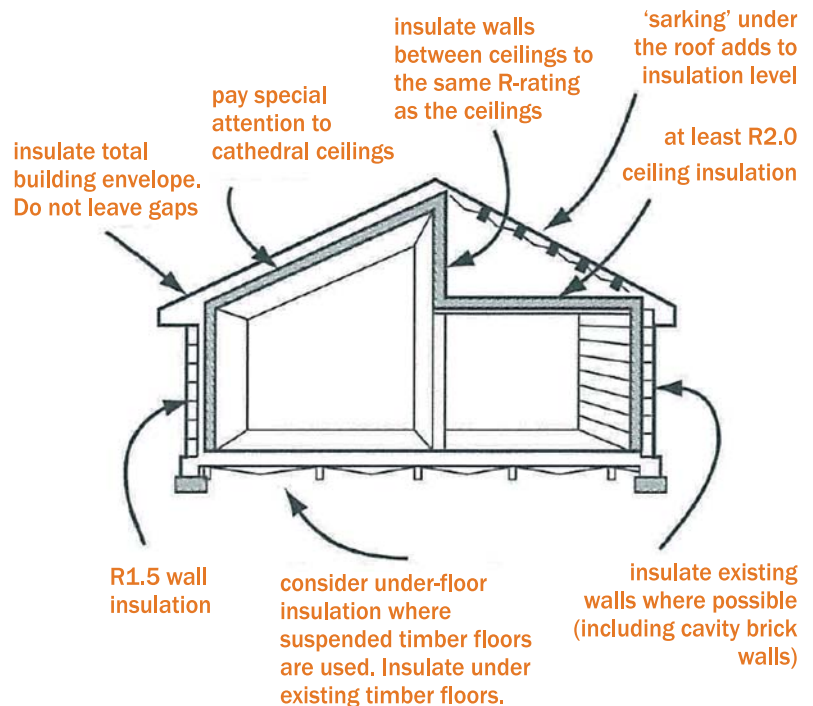
- Install an energy efficient system (gas, solar or heat pump) as near as possible to the kitchen, bathroom and laundry;
- Solar and heat pump systems may be eligible for government rebates;
- Install a unit which is correctly sized for your needs;
- Insulate hot water pipes;
- Use AAA rated showerheads.

Lighting

- Make good use of natural light especially in living areas.
- Paint your walls and ceilings in light colours.
- Use compact fluorescent lights in living areas.
- Large banks of recessed lights, (or downlights), should be avoided.

Insulation

Where possible, insulate the ceilings, walls and, in some cases, the floor of your renovation.



Further Information

Port Macquarie-Hastings Council on 6581 8111 or visit www.pmhc.nsw.gov.au.

Federal Government Greenhouse Office on 1300 130 606 or visit www.greenhouse.gov.au



PORT MACQUARIE
HASTINGS

The information on this brochure is from the NSW Government's 'Live Energy Smart' project.