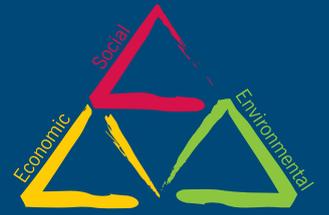


FACT SHEET: TOP TEN TIPS

smart&sustainable HOMES



Smart Housing is good practice in designing, planning and building homes to make them more environmentally, socially and economically sustainable.

This fact sheet highlights some of the most important things you can do to improve the sustainability of your home. That is, ensure that your home will meet your needs as they inevitably change throughout your life, as well as make it more liveable, safe, secure, cost-efficient and environmentally friendly.

Top ten tips

1. Reduce water use
2. Natural heating and cooling
3. Efficient water heating
4. Future proof
5. Safe floors
6. Address the street
7. Casual surveillance
8. Long term maintenance
9. Indoor air quality
10. Outdoor living

1. Reduce water use

Households can significantly reduce their water consumption and their water bills by using:

- ▶ water efficient appliances and fittings with a higher Water Efficiency Labelling and Standards (WELS) rating
- ▶ landscaping that requires little water and
- ▶ a water tank for collecting roof water for use on the garden and for flushing toilets (check Council requirements).



Sustainable Home Toowoomba

2. Natural heating and cooling

Passive solar design makes use of climatic conditions such as the sun and wind to increase the comfort of the occupants by naturally heating the home in winter and cooling it in summer.

This reduces the need to install artificial heating and cooling systems which increase electricity bills and produce greenhouse gas emissions.

The following design characteristics should be considered to make best use of the benefits of passive design:

- ▶ orientation for breezes and solar access
- ▶ thermal mass versus lightweight construction
- ▶ cross-ventilation
- ▶ insulation to roof, ceiling and walls
- ▶ wide eaves to shade external walls and
- ▶ window shading, especially on the eastern and western sides.

Discuss with your builder or designer how the principles of passive design best apply to the site and location of your home.

3. Efficient water heating

The Department of Energy, reports that up to 40% of domestic energy utilised in Queensland is for water heating. Installing an energy efficient hot water system and locating it in close proximity to the hot water outlets could save up to 80% on water heating bills and subsequently reduce greenhouse gas emissions.

Energy efficient hot water systems include:

- ▶ hot water systems that are eligible for at least 24 Renewable Energy Certificates (solar-gas, solar-electric, or heat pump) and gas water heaters with a minimum of five stars on the Australian Gas Association (AGA) Energy Rating Label.



Gas hot water system



➤ 4. Long-term maintenance

Careful selection of materials and consideration of the design of a house can reduce the repair and ongoing maintenance costs. It can also delay or reduce the eventual cost of replacing materials.

Consider:

- ▶ the maintenance requirements and life expectancy of selected building materials, fittings and appliances
- ▶ the design of the home to allow easy and safe access to items that require regular maintenance or inspection
- ▶ the use of low maintenance materials in areas which are difficult to access
- ▶ materials that can be easily cleaned.

➤ 5. Future proof

A house will be more adaptable to accommodate a family's changing needs if the kitchen, living room, bathroom, toilet, and at least one bedroom (or a room suitable to be converted to a bedroom) can be reached along an 'accessible path' from the front boundary or car parking area.

The key elements of an 'accessible path' include level thresholds (maximum 10mm change in level) and a minimum width of 1200mm, except through doorways with a recommended minimum clearance of 850mm. (Refer to the *Accessible paths, Kitchens and Bathrooms* fact sheets for more information).

Have one room in the home built in accordance with the *Australian Standard 1428.2*, or that has enough space for a bed (1500mm X 2000mm), with 1200mm clearance on two sides and 1500mm clearance on the third side. It could be used as an office, media room or living room that can be easily converted to a bedroom as required.

➤ 6. Safe Floors

People should be able to move safely and with confidence throughout the house. Wherever possible, reduce the risk of falls by designing floors to be slip resistant and level with a continuous and even surface (maximum of 10mm step).

Showers built with a level, step-free threshold (known as hobless showers) are a safer option because they minimise the risk of tripping. Shower thresholds should be level or have a maximum step of 10mm.

For further information:

www.smarthousing.qld.gov.au
www.sustainable-homes.org.au

Smart and Sustainable Homes
 Technology and Development Division
 Department of Public Works

GPO Box 2457
 Brisbane Queensland 4001

➤ 7. Address the street

The way in which the house and landscaping address the street should clearly define the separation between public, semi-public and private spaces. It is recommended the house has:

- ▶ a prominent, easy-to-read house number to assist visitors and emergency services to locate the house
- ▶ a well-defined and separate driveway and pedestrian entry that are clearly visible from the street or from neighbouring properties
- ▶ good external lighting for security and surveillance purposes
- ▶ a step-free entrance that makes access easy for everyone. (e.g. parents with a pram, older people or a furniture removalist)

➤ 8. Casual surveillance

Planning ahead for safety and security can reduce the risk of injury to people in the home, encourage social interaction with neighbours and can also reduce property related crime.

Design your home and garden to:

- ▶ provide easy surveillance of play areas from the kitchen or main living areas and
- ▶ allow surveillance of the street and adjacent public.

➤ 9. Indoor air quality

Ensure good indoor air quality by avoiding materials that contain volatile organic compounds that can cause irritation and allergies (e.g. if laying carpet ensure the adhesives are non-toxic and that the carpet is aired before being laid.) For further information, refer to the Commonwealth Department of Health and Ageing's *Healthy Homes* booklet.

➤ 10. Outdoor living

Outdoor living areas allow occupants of the home to take advantage of the Queensland climate.

It is recommended that outdoor entertainment and play areas are covered or have effective sun-shade structures and have a good relationship to the indoor living space.

The driveway should be separated from play areas to reduce the chance of incidents involving children and cars on the driveway. Consider a barrier such as a fence or raised garden bed to achieve this.