FREE GUIDE + bonus checklist

Tropical Home Buyer's Guide

A step-by-step guide to buying a new home











Cost savings now and into the future
Style and quality that lasts
Healthy, comfortable living



Buying a new home is an exciting process. This Guide will take you through the process of choosing a new home step-by-step, explaining what to look for and the most important questions to ask.

Tropical Home Buyer's Guide

The Top End and tropics are an iconic part of Australia, known for their relaxed lifestyle, diverse natural beauty and distinctive wet and dry seasons. This Guide is for homebuyers in locations above the Tropic of Capricorn. It takes you step by step through the unique considerations you'll face when choosing a home in this region.

This Guide is particularly for homebuyers who wish to buy off the plan from a display village or have a new home custom designed and built. However, the advice is useful for all homebuyers, including those intending to buy an existing home. Renovators will also find many of the tips useful.

Your step-by-step guide to buying a new home

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You can also find this Guide and Checklist online at www.homebuyersguide.info.

1 Getting started

Your home is important in so many ways

It's a place to relax, unwind and spend quality time with family and friends. It's probably also the biggest investment you'll make. Use this Guide to choose a home that will meet your needs, will be cheaper to run, will be kinder to the environment and will provide the best value for money – now and for a long time to come. Your family will thank you for it. Energy efficient features such as good insulation and solar hot water might cost a little more upfront but can save on your bills every month.

This Guide is designed for you, to take the stress out of choosing a home. You might only build once or twice in your life, so this is the opportunity to create exactly what you want in your new home. But it can be daunting too. There is so much to consider, from prices and layouts through to product and colour selections.

The checklist that accompanies this Guide (on each right-hand page and repeated in the back pocket) is a useful reminder of features that can add value to your home and make it a more comfortable place to live. You can use it when you're comparing different homes and products. You might also want to use it as a reminder list when you're talking with sales staff and builders.



"Thinking through what we wanted first saved so much time once we started looking."

We hope this Guide will inspire you to find out more. There are links throughout to the wealth of information in *Your Home Technical Manual* and other sources so you can find out more about whatever interests you.

Step by step

One of the most common questions from homebuyers is about the process involved in buying a new home. With so much to think about, it's useful to have a step-by-step guide outlining how the process works. The details will vary depending on the home building company you use, but the basic steps are the same and generally follow the sequence set out in these chapters.

There are different ways you can go about building your home. You can:

- purchase your land first, then choose a home to suit
- choose your home first, then purchase your land
- choose a house and land package, or
- rebuild or renovate an existing home.

These are all really important decisions and the tips here will help you to make them wisely. From a design perspective it's better to choose your land first if you can, then choose a home to suit. Choosing a home and land package minimises some of the complications but it can limit some of your choices. Whichever way you decide to go, aim for the best match between your land and your home. Read on to find out how.



Start with a list

The process of buying a home can seem complicated, and sometimes it's hard to know where to start. To help you remember all the details and get the most out of the process, it's a good idea to start with a list.

Write down your 'must haves' so you know what your priorities are. Buying a home is an emotional process and sometimes it's easy to fall in love with a particular feature or style, forgetting about what you originally decided you needed to suit your lifestyle and budget. Your 'must haves' may include things like number of bedrooms, light and airy interiors and a separate play area for the kids.

Next write down your 'wish list'. Your 'wish list' should include extras that would be of great value or use to you, like a shaded alfresco dining area, solar hot water, plenty of built-in storage or a photovoltaic system to generate your own electricity.

There are many places you can go for information and ideas, including home magazines, websites, display villages and home ideas centres. Talk to friends and learn from their experiences – what do they love about their home, and what would they change? Thinking through what you want first makes it much easier once you start talking to sales people and builders. Your lists can help you to prioritise what you really need, while staying within your budget.

Checklist

Getting started

Our family's 'must haves':

Our family's 'wish list':

Number of bedrooms:

Number of bathrooms:

Other important features for us:

Tips

- ❍ Think about how often your family might use a formal living or dining area before you add them to your 'must have' list.
- ❍ Check that your 'must have' list includes features that save on running costs and make your home more attractive to future buyers, like energy efficient housing design, outdoor living areas and solar hot water.
- ❍ Could you save on space and money by creating flexible and multi-functional spaces?

USING THIS GUIDE

Use this Guide to:

- think through your needs and create your 'wish list'
- compare different homes and products, and
- find the best value for money, now and for the future.

You'll be amazed by how much good design can improve your lifestyle – and good design starts with finding the best match between your land and your home.

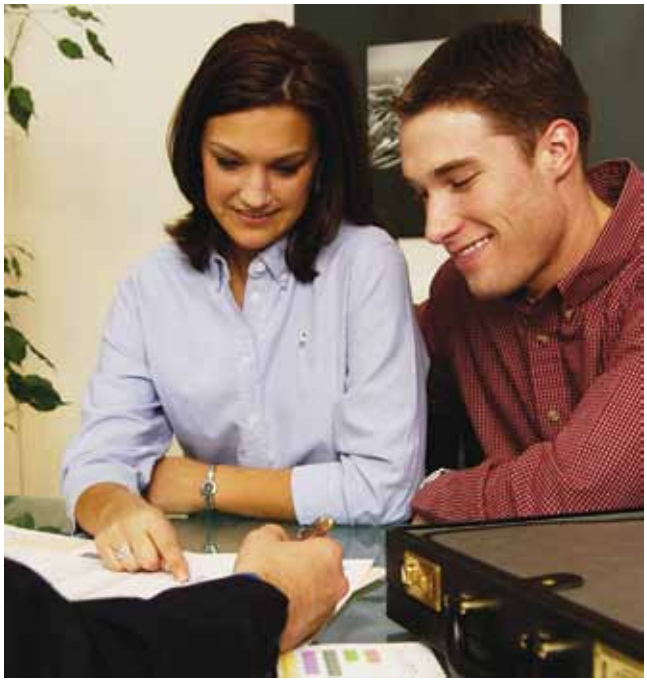
BUYING YOUR FIRST HOME

If this is your first home, talk to friends who've already built a home about what's worked for them. What do they like – what would they change? Which rooms are their favourite, and what is it that makes them so comfortable to spend time in? What are their favourite features? Would they change anything about the floor plan or the style?

FIND OUT MORE

- *Your Home Technical Manual* is an award-winning guide to environmentally sustainable housing, with over 60 fact sheets full of handy tips and ideas, plus home design examples from around the country. It's available free online: www.yourhome.gov.au
- Government departments, local councils and community groups can also be good sources of information:
  - NT Government Department of Lands and Planning, *Building and Renovating in the NT: A Consumer Guide*; search online: 'Building and renovating in the NT'
  - NT Power and Water's *Green Guide*; search online: 'NT power green guide'

2 Planning your budget







Invest in the long term

For most people a home is much more than a place to live, it's a long-term investment. This is your opportunity to find a home that's not only good value upfront, but holds its value over time. Your decisions at this stage will have important consequences for your future, so you want to get it right.

When you start looking at homes, it's easy to focus on the short term – 'what can I afford right now?' But when you think about it, ongoing costs are really important too. For example, an energy efficient home means lower energy bills, so you can use the savings to pay off your mortgage faster. You could save hundreds of dollars a year on electricity bills by designing a home that will stay cool and choosing efficient lighting and appliances.

Times are changing rapidly and new issues need to be factored into smart investment decisions. This is sometimes called 'future proofing' – making sure that your investment will hold its value over time. Protect your investment against rising energy, water and petrol costs by ensuring your home saves energy and water and is close to everything you need, including any available public transport. Choose long-lasting, durable materials that don't need a lot of maintenance.

These choices also have an impact on resale value. Regulations for new buildings are getting stricter over time, and when you sell your home you want it to be able to compete with newer, more energy and water efficient homes.

Factor in all the costs

When you visit a display home village, the prices displayed are usually base house prices, from which point you can choose additional upgrades and features. It's often difficult to compare 'apples with apples' because what's offered as a standard inclusion by one home building company may not be offered by another.

Many home buyers say they wish they'd known about the hidden costs right from the start. To help with your budgeting, check with your builder about what is and is not included in the price you've been quoted, and make sure you get it in writing.

This includes items such as:

- council approval fees
- construction insurance premiums
- soil test by a qualified engineer
- connections to services
- excavation and drainage
- driveways and landscaping
- legally required construction extras (e.g. scaffolding, security fencing, sediment control)
- outdoor living areas
- light fittings
- hot water service
- floor finishes (e.g. timber, tiles etc.)
- kitchen cabinets, benchtops, sinks and appliances
- blinds, shutters and flyscreens.

Make sure the cost of meeting government regulations (such as insulation, rainwater tanks, etc.) has been factored into the quoted price. Find out about financial assistance such as rebates for items like hot water systems and rainwater tanks. Your local authority should be able to advise you about the rebates available in your area. You can also check the Australian Government's Living Greener website.

Checklist



Planning your budget

Our total budget:

Cost of the housing package/s we're interested in:

What else (not included in the package) do we need to budget for, and how much?

Will we factor in a contingency for unexpected costs? If so, how much?

Tips

- Less is often more. Design a home that provides everything you need in the most space-efficient manner possible.
- Smaller homes can help save on construction costs and ongoing costs, because you have less space to light, cool, furnish and clean. They take up less room on your block, leaving more outdoor area and more space between houses for better ventilation.

GO GREEN WITH YOUR MORTGAGE

Banks are aware of 'future proofing' too, which is why some finance providers offer 'green mortgages'. You can get a lower interest rate when you include 'green' features. This doesn't mean alternative materials like mud brick or straw bales. It just means a well designed, long-lasting home that saves precious resources, and saves you money.

LOCK IN THE LONG-TERM COST SAVINGS NOW

Take time to think about your budget – this is your chance to lock in features that hold their value and save you money, such as:

- quality design that uses space cleverly
- durable materials for a tropical climate
- a comfortable home with a high star rating, and
- water and energy saving features.

Many of these features come at no extra cost, and those that do cost more upfront are usually quickly paid for by savings in energy, water and maintenance bills.

FIND OUT MORE

- Rebates: www.livinggreener.gov.au
- NT Government Department of Lands and Planning, *Building and Renovating in the NT: A Consumer Guide*; search online: 'Building and renovating in the NT'
- Queensland Building Services Authority, *Consumer Guide*; search online: 'BSA consumer guide'
- Queensland Building Services Authority Homeowners Section; search online: 'BSA homeowners'



3 Choosing where to live

Location, location!

Location is so important. You have the opportunity to maximise your investment by choosing a block that's close to everything you need and well connected to walking and cycling routes. Smart home buyers know this also helps to protect them from rising petrol prices. A better location might mean a smaller block – or even a different style of home – but maybe it's worth it when you think about everyday travel times and convenience.

Did you know that the way your home sits on your block can have a big impact on your energy bills? When you're looking at different blocks consider how you could position a home so that it can be naturally cooled. It's important to position your home to take advantage of cooling breezes where possible. Page 10 explains how to check the wind details for your location. Good shading is also important, and blocks with their long side running east-west make it easier to position a home to keep out the sun.

No matter which way your block faces you can still get a good outcome – just as long as you choose a suitable home design. Even lots that are not ideal can accommodate comfortable homes. Positioning your home the right way should not add to building costs and will naturally improve comfort. The main priorities should always be to keep out the sun and locate living areas and bedrooms to allow as much air flow as possible. This is explained in more detail further on.

It's also important to look at the big picture if buying a block in a large development site. The developer should ensure that breezes can flow through the estate and that individual houses cannot be placed to block breezeways. This is achieved by carefully designed street and allotment layout, fences and adequate block sizes and setbacks.

Checklist



Choosing where to live

Suburbs or estates our family is considering:

Will we be able to walk or cycle to everything we need – shops, schools, parks, public transport? . . . . . ☐

Does the block have good access to cooling breezes? . . . . . ☐

Is the block well shaded by trees or other features? . . . . . ☐

Our location 'must haves':

Best location for us would be:

Will we be able to position a home on our block to take best advantage of cooling breezes and/or shade? . . . . . ☐

Will any neighbouring buildings have an effect on our block's privacy, views or access to cooling breezes? . . . . . ☐

Best block for us would be:

Tip

- Check the walking and cycling routes near your preferred location – how long will it take to walk or cycle to the nearest shops or to schools?

WALK OR CYCLE?

Spend less time in your car and more time enjoying life. Being able to walk or cycle to shops, schools, parks and public transport not only makes life easier but healthier too.

WHERE IS NORTH?

To find out you can use a street directory – the top of the page is always north. Most estate plans will include a north arrow.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *Choosing a site*
  - *Design for climate*
  - *Orientation*

4 Choosing your new home



"We discovered there's so much more to it than cost per square metre ... our home has character and spaces that work well for us."



Know the rules

First, it helps if you can find out the requirements for homes at your chosen location. You can do this by checking with your builder and with the local authority. If you're buying into an estate there may be additional requirements made by the developer that you need to follow. These requirements can cover a range of different things including types of building materials, façade style, fences and hot water systems, to name a few. Often these are called 'design guidelines' or 'covenants' for the estate.

Choose the floor plan that works for you

Looking at builders' floor plans is where you can start to compare your 'must haves' and 'wish list' with what's on offer. You can make choices based on how many square metres you can get for your money, but smart investors know that there's much more to a good investment.

Think carefully about what you really need. It's tempting to want more area for your money but bigger isn't always better – you'll have less garden space and more house to cool, light, clean and furnish. This adds to your costs both now and into the future. Good design that doesn't waste space feels great to live in and holds its value better.

Instead of more floor area, consider spending the money on features that add to quality and comfort, like higher ceilings. These can improve ventilation and make ceiling fans more effective by allowing longer droppers.

Think about grouping together those parts of the house that you might want to air condition, such as bedrooms, and those that could be naturally ventilated, as they have different design requirements.

Create living areas that flow from indoors to outdoors. In a climate that's ideal for outdoor living, it makes sense to design the outdoors as an extension of the home. In doing this, you can make a smaller home feel spacious.

Find the perfect fit

Make sure the homes you're considering are a good fit for your block. For example, check the width of the home frontage and any setback requirements (the distances you have to leave between your home and your site boundaries). Your builder should be able to do this for you. Ensure setbacks are wide enough to allow for shading, such as leafy planting, to keep out the morning and afternoon sun.

Choosing a floor plan that faces the right way on your block will make your home naturally more comfortable, and you won't need to spend as much on keeping cool. In general, north or south sides of the house are best for places where you spend a lot of time, because they are the easiest to shade from unwanted sun. At the same time, ensure the places where you spend a lot of time, like living areas, are best positioned to capture cooling breezes. A northerly aspect is generally ideal, depending on the direction of prevailing breezes in your location. If it looks like your living areas will be cut off from breezes or exposed to too much sun ask your builder if you can flip or rotate the plan for better positioning on the site, make minor modifications to the plan, or design suitable shading and breeze deflectors.

If you have a sloping block, think about a house that avoids expensive excavation and drainage costs. Tell your builder about your block and ask them to suggest a suitable design.

Check with your builder that the position of your home will maintain privacy for you and your neighbours. Keep bedrooms away from noisy areas like driveways or neighbours' living areas. Now is also a good time to think about where you'll put cost saving features like an outdoor clothesline, and water saving features like a rainwater tank.

Checklist



Choosing our new home

Homes our family is considering:

Our preferred home:

Is it a functional floor plan without wasted space and with plenty of storage? ☐

Is it a good fit for our block and able to catch the cooling breezes? ☐

What would we change about this plan?

Tips

- ❍ Talk to your builder about making no cost or low cost changes – for example, can you flip or rotate the plan?
- ❍ If you have a steeply sloping block, choose a split-level or raised floor design.

CONSIDER YOUR POSITION

The **north and south sides** are often the best place for areas you use a lot in the daytime, like outdoor living areas.

The **west side** gets hot in the afternoon if not well-shaded. If difficult to shade it is best for areas like bathrooms, garages and laundries.

If you can't get an ideal position for every room, you can still have an energy saving home. You'll just need to pay more attention to design and this might cost a little more.

Good position on the block gives you a headstart and makes the rest easier, so lock it in if you can!

A HOME FOR LIFE

You might be planning to live in this home for a long time so ask for features that will make your home a safe and easy place to live as you grow older, like entries and showers without steps.

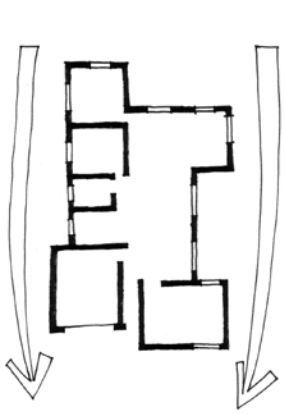
These features make good sense anyway and come in handy when you have small children or elderly or less mobile visitors. They could also make your home attractive to a wider range of people when it comes time to sell.

FIND OUT MORE

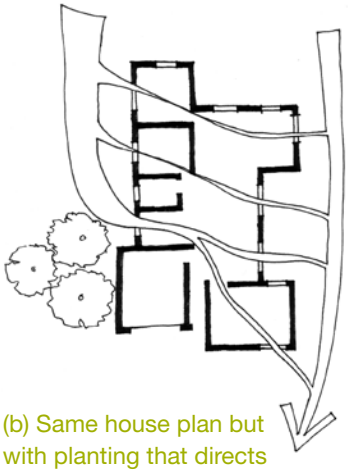
- Your Home fact sheets: www.yourhome.gov.au
  – *Orientation*
  – *Passive Design: Introduction*
  – *The Adaptable House*
  – *Safety and Security*
- COOLmob, *Greenhouse Friendly Design for the Tropics*: www.coolmob.org
- Townsville City Council, *Sustainable Housing Information Kit*; search online: 'Townsville sustainable housing kit'

4 Choosing your new home

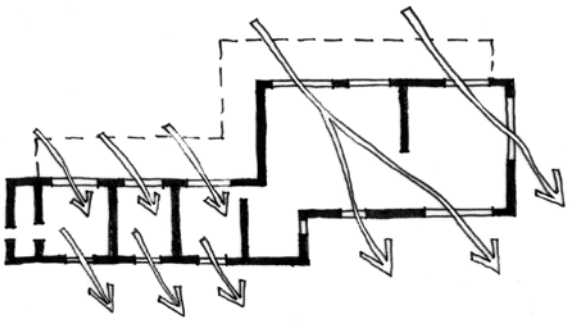
Arrows in these diagrams (and on page 13) indicate breeze pathways around and through a house.



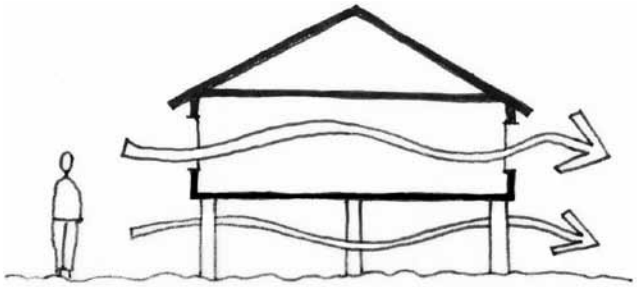
(a) Breezes flow past the house



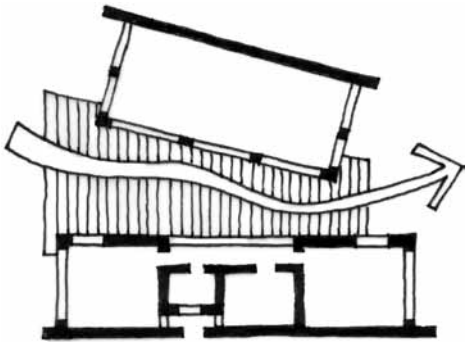
(b) Same house plan but with planting that directs breezes through the house



Floor plans that are one room deep allow good air flow



Elevated houses can capture cooling breezes



Separate pavillions with breezeways between them can also improve ventilation

Aim for the stars

Your home's star rating indicates how comfortable it will be and how much you're likely to save on cooling bills. The star rating scale goes up to 10 stars. In most States and Territories new homes are required to be at least 5 or 6 stars, but astute home buyers are asking for 7 stars or more – an indication of good, energy saving design.

Protect your household against expected energy price rises. Electricity bills might seem unimportant now compared to mortgage payments, but the lower your bills are, the easier the mortgage payments will be. In a climate like Darwin, upgrading to a 7-star home can reduce cooling costs by up to 30% compared to 5 stars! What's more, a high star rating may improve the resale price of your home.

The star rating for your home is focused on the building 'shell' – building materials, insulation, windows, shading – as well as how your home is matched to your block. All the tips on the next few pages will help you reach a good star rating. You can get a good star rating with almost any house style, but some styles work more easily than others.

But remember there's more to a comfortable house than just a high star rating. Good landscape design and pleasant outdoor living areas are also important.

Staying cool is a breeze

Air flow is vital for staying comfortable in a humid tropical climate. Ensure indoor and outdoor living areas have access to prevailing cooling breezes. The Bureau of Meteorology publishes charts that show where breezes come from at different times of the year and day (search for 'wind roses' at www.bom.gov.au). Talk to people who live nearby if you can and ask them about breezes and the best place for outdoor living. Ceiling fans on verandahs are a good way to assist cooling and may help you get a better star rating too.

Larger boundary setbacks can assist better circulation of air around and through your home. Instead of a front or back garden, think about having a side garden if that will allow air to circulate more easily.

Use design features such as wing walls or planting to direct breezes to where they are needed.

The floor plan should allow air to flow through the house. A simple elongated design of single room depth is usually best for this, but other designs can work as long as proper attention is paid to creating clear air pathways. It is important to ensure that all rooms have more than one window, preferably on opposite walls, for good airflow.

Elevated houses are generally better at capturing cooling breezes. The wind speed at three metres above ground level can be twice that at one metre above in a suburban area. The space under the house can be used for things like laundries so you can reduce the footprint of your house and provide a sheltered and shaded area under the house for kids to play and for clothes drying in the wet season. Separate pavilions with breezeways between them can also improve ventilation.

Shading works wonders

A roof with extended eaves or large overhangs is a cheap and effective way to help keep your home cooler. These help shade the ground, walls and windows from the sun.

Extended eaves work particularly well on the north and south side, providing effective shading without you having to do a thing and letting you keep the windows and doors open on rainy days. Eaves should be at least 900 mm deep on the north and south, and more if you want to use them to shade outdoor living areas.

Eaves are not as effective on the east and west as they do not keep out the low angle morning and afternoon sun. Here the best options include very deep roof overhangs, verandahs, and pergolas which incorporate vertical shading structures such as lattice screens or blinds. External shutters and blinds or dense leafy planting can also be used.

Eaves and overhangs also help with waterproofing and can reduce cracking and fading of paint due to the sun. If you need to have smaller eaves and overhangs, just be aware that you'll require additions like adjustable window shutters or window hoods to keep your home comfortable.

Concreted and paved areas should be kept to a minimum as they can store and reflect a lot of heat – try to shade any large areas of concrete or paving and avoid putting them in the path of cooling breezes.

If it is difficult to shade a west facing wall, particularly a masonry wall, with overhangs, a verandah or trees, think about attaching an extra 'false' wall on top of the main wall. This can be as simple as a layer of corrugated steel on battens attached to the wall.

Checklist



Choosing our new home

The star rating of our home will be:
(Will we score 6 stars or more?) . . . . . ☐

Which direction do the cooling breezes come from on our site in the wet and dry seasons?

Is our house positioned to allow air to flow inside? . . . . . ☐

Have we positioned our windows to minimise heat gain? . . . . . ☐

Are our windows and doors well shaded? . . . ☐

Can we avoid or reduce the cost of air conditioning by using natural ventilation, shading and ceiling fans instead? . . . . . ☐

Comments, things we'd like to change about our home design:

Tips

- ❍ Consider adding extra doors to close off rooms for ease of cooling – this will also reduce your electricity costs.
- ❍ Check your ceilings will be high enough to accommodate fans – this can help save on cooling costs.
- ❍ If you have views to the west or east, use small picture windows to capture the view while minimising unwanted heat gain.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *Design for Climate*
  - *Orientation*
  - *Passive Cooling*
  - *Shading*
  - *Rating Tools*
- COOLmob, *Greenhouse Friendly Design for the Tropics*: www.coolmob.org
- Townsville City Council, *Sustainable Housing Information Kit*; search online: 'Townsville sustainable housing kit'

4 Choosing your new home





Glass has an impact on bills

Many Australian homes simply have too much glass. Glass is the 'path of least resistance' for letting in heat, so don't go overboard on it. If you don't choose the right size for windows and glazed doors, and the right type of glass, your home may feel like a sauna in warm weather.

The way the sun moves across the sky means that some places are better for glass than others – glass facing north or south is easier to shade in the middle of the day because all you need are large eaves. Glass facing east or west can overheat without external shading to keep out the low angle morning and afternoon sun. Avoid windows on east and west walls unless they're well shaded, put them on north and south walls if possible.

Windows and doors that can open up wide, such as folding doors, stacking sliders, casement windows and louvres, make it easy to naturally cool your home. Louvres can be used to direct breezes at different angles and you can leave them open but still have security. Avoid standard sliding doors and windows if you can as they can't be opened up fully. Insect screens, security grilles and windows that lock when partly open allow you to let breezes in whenever you need to. However, insect screens can reduce the air flow by about 40%, and dirty ones even more. Consider retractable screens to maximise air flow at times when insects aren't such a problem.

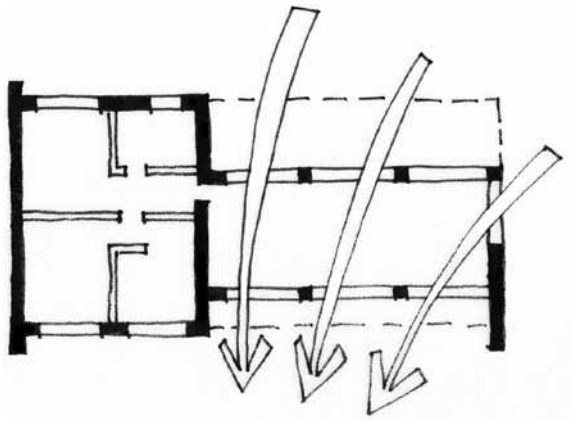
Special types of glass, such as tinted low-E, can be used to reduce the amount of heat that passes through them, and are useful for windows that are hard to shade. Double glazing will reduce the outside heat coming into a cool room, but must still be shaded. The windows energy rating scheme (WERS) can help you make the right choice. For more information on WERS and choosing glass, see the Your Home *Glazing* fact sheet.

"We paid extra for better insulation in the ceiling – it was worth every cent. We hardly use the air conditioner anymore."

Insulation is a wise investment

Although you don't see it, you'll feel the impact of good insulation every day. Your home will be more comfortable plus you'll save money on energy bills. Ask about what's included in your price and talk to your builder about increasing the amount of insulation in your home.

The higher the 'R value' the better the insulation. Make sure you have reflective insulation in roofs and walls (like the shiny foil sarking that goes under the roof). Air conditioned areas will also need bulk insulation such as batts. Make sure you also have good draft proofing, including weather seals on windows and external doors.



You can save on energy costs by closing off the air conditioned parts of the house (e.g. bedrooms) from the naturally ventilated rooms

If you will be using air conditioning a lot in some parts of your home, such as bedrooms, they will have different requirements to naturally cooled areas. Keep them compact and grouped together and ensure the roof, walls and floor are well insulated with bulk insulation. They will need to be able to be closed off from the rest of the house when the air conditioning is on to save you money on your energy bills.

In hot tropical climates, choose building materials that keep heat out during the day and don't store heat, so they cool down quickly at night. This generally means well insulated light weight walls, although some masonry construction can be used provided it is well shaded. Autoclaved aerated concrete (AAC) is preferable to traditional concrete blocks or bricks as it is a better insulator. Floors can be either raised timber or concrete slab on ground.

Roofs of outdoor living areas should also be insulated to reduce the amount of heat they radiate onto walls and to make them more comfortable in the daytime.

Ventilation of your roof space will help keep your home cooler. This can be roof ventilators such as 'whirlybirds', vents in the eaves and gables or ridge venting.

Checklist

Choosing our new home

Do we need to consider well-shaded high-performance glass or double glazing? . . ☐

Where?

Have we chosen windows and doors that can open up wide to allow airflow while still keeping our home secure? . . . . . ☐

Have we included the best possible insulation under roofs, in ceilings and in walls? . . . . . ☐

Do we need floor insulation? . . . . . ☐

Comments, things we'd like to change about our home design:

Tips

- Check the WERS label on windows and glass doors to help you make the best choice.

Home building contributes to some of Australia's biggest environmental problems and building regulations are changing fast as we find smarter ways to build. The regulations may vary depending on where you live but one thing is certain: homes of the future will need to get better and better at saving resources. It pays to think about this now!

DID YOU KNOW?

- In Queensland all homes for sale must provide information to prospective buyers about their energy and water efficiency.
- Choosing a dark roof colour could make your home overheat, as dark materials absorb heat more readily.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  – *Glazing*
  – *Insulation*
  – *Insulation Installation*
- COOLmob, *Greenhouse Friendly Design for the Tropics*: www.coolmob.org
- Townsville City Council, *Sustainable Housing Information Kit*; search online: 'Townsville sustainable housing kit'
- BEDP Environment Design Guide, Tec 2, *Natural ventilation in passive design*

5 Working with your builder





Your living areas

Here's your chance to create your ideal living space, somewhere you can relax, entertain and spend quality time with family and friends. This is the most lived-in part of your home so it deserves some special attention.

Clever design of space is crucial in a living area. What matters most is the feeling of spaciousness and how well the spaces function, rather than the amount of space. Look for practical, well-designed areas that use space efficiently and don't waste it.

Think of your garden and outdoor areas as an extension of your home. The best living spaces are those that flow from inside to outside so you can make the most of outdoor living. Compact living areas that open up to the outdoors can create quality living space whilst saving on construction costs.

In a climate that's ideal for outdoor entertaining, cooking and relaxing, choose a home that makes it easy. Look for living areas that open straight onto decks or patios, covered by generous roof overhangs to protect from sun and rain. Retractable insect screens can also be incorporated into these designs. Pavilion-style homes connected by outdoor living spaces can work well, as they create an easy indoor-outdoor flow and also allow for good natural ventilation. Try to face your living areas to capture cooling breezes, or use features like planting and wing walls to direct airflow into living areas.

Open plan living is popular and can create a wonderful flow of space. If you don't use air conditioning, open plan designs are good for allowing air to circulate. But if you use air conditioning even some of the time, indoor living areas that are too open, especially if they have mezzanines or high ceilings, can be difficult (and expensive) to keep cool. Some designs give you the flexibility to open up or divide up the space as you need.

You could talk to your builder about modifications that allow you to use space flexibly and make cooling easier, like room dividers or sliding partitions so you can close off areas that don't need air conditioning. This way you can also adapt space to suit your family's changing needs.

Remember that to help keep indoor living areas naturally cool you need windows and doors that open

wide on more than one wall, ideally on opposite sides. This allows cooling breezes to flow through. High windows or skylights work well to get rid of hot air as it rises, for example in stairwells. Just make sure they have high performance glass, are well shaded and the frames have good seals to keep heat out when they're closed.

Your kitchen

Kitchens are said to be the heart of the home, where everything happens. It's often the kitchen and living areas that people fall in love with and that's important if you're thinking about resale value. A well designed, functional kitchen can really add value to your home.

A good kitchen gives you room to move but is compact enough to allow easy reach between different activities, like preparing food, cooking and rinsing. It's a good idea to leave generous bench space between the sink and the cooktop as this tends to be the most useful space for food preparation. Locate dishwashers close to sinks to allow easy loading – this also concentrates your plumbing needs in one place and saves money. Multi-bin sorters under kitchen sinks are a great idea – you can separate your rubbish and recycling straight away.

Did you know that the fridge typically uses more energy in a year than any other plug-in appliance? It's responsible for 10% or more of the average family's electricity bill. It pays to buy an efficient and appropriately sized fridge – see page 23 on appliances for some handy hints. Make sure kitchen cabinets allow a decent air gap of at least 50 mm all around the fridge (especially at the back) as it needs good ventilation to work efficiently.

Checklist

Our living areas and kitchen

The living areas we need are:

Will our living areas be well shaded? ☐

Can windows be opened on more than one side of living areas to let cooling air through? ☐

Can our living areas be opened up or closed as needed, for economical cooling? ☐

Comments, things we'd like to change:

Does the layout of our kitchen allow easy reach between different activities? ☐

Do our kitchen cupboards use low emission particle board and finishes? ☐

Comments, things we'd like to change:

Tips

- Think about including a multi-bin sorter and compost container when you're choosing your kitchen garbage system – this can make recycling much easier for the whole family.

A GOOD KITCHEN IS A HEALTHY KITCHEN

This is about more than the food you eat! Most kitchen cabinets contain glues and varnishes which give off fumes, particularly when they are newly installed, that can cause breathing irritations and allergies. New 'low emission' materials and finishes provide a much healthier alternative – ask your kitchen designer or see the Healthy Home fact sheet.

LAYOUT TIPS

- You can use outdoor space as an extension of your living room, effectively getting more space for free!
- If you have young children, place kitchens and living areas to overlook play areas.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *The Healthy Home*
  - *Passive Cooling*
  - *Appliances*
  - *Safety and Security*
  - *The Adaptable House*

5 Working with your builder





"Getting the builder to make a few changes to the plan was the best thing we ever did."

Your bathrooms and laundry

Everybody loves a well-designed bathroom. There's an opportunity to add value to your home and save lots of water in bathrooms and laundries without having to compromise a thing. Your plumbing fixtures will last a long time so it pays to demand the best standard of water savings. When you come to sell your home you'll want it to be able to compete with newer, water efficient homes.

A 3-star showerhead can save around $100 in energy and water each year. A 4-star toilet saves the average household about 1,000–1,500 litres of water each year compared to a 3-star.

There's been a recent trend towards multiple bathrooms in new homes, but it's worth thinking about the extra costs and cleaning before you add bathroom number three to your 'wish list'! You can save money on plumbing by choosing a plan that groups wet areas like the kitchen, laundry and bathrooms close together. Fewer bathrooms make that easier.

Also worth considering are features that make your bathroom safe and easy to use for all ages, like showers without steps and non-slip floor tiles.

Bathrooms in the tropics need to have good ventilation to combat moisture and mould. Having windows that open to ventilate bathrooms and laundries is cheaper and quieter than relying on an exhaust fan. Your rooms will have a light, airy feel and you'll save on electricity.





If you use predominantly light, neutral colours in permanent finishes like tiles, you can use colour accents in features that are easier to change, like painted walls. For durability, ensure moisture resistant materials and finishes are used in bathroom joinery.

After you've locked in good savings with your water efficient fittings you might want to go further by using rainwater or treating water for reuse. See page 27 for more information.

Your bedrooms

Avoid bedrooms facing west if you can as they heat up in the afternoon and can be uncomfortable at night. If you can't avoid west-facing bedrooms don't worry – they can still be comfortable – you'll just need to pay better attention to airflow, shading and insulation. Elevated bedrooms are better able to take advantage of cool night breezes. Make sure bedroom ceilings are high enough to accommodate ceiling fans.

Your home office

If you work from home a lot, try to provide your home office with a pleasant north or south-facing aspect – you'll want it to be comfortable all day. If you need to air condition your office, consider conditioning it separately to the rest of the house to save on your energy bills.

Checklist

Our bathrooms, laundry, bedrooms and home office

Will our bathrooms and laundry have windows for good natural ventilation? . . . . . ☐

Have we chosen the most water efficient plumbing fixtures available? . . . . . ☐

Comments, things we'd like to change:

Can we swap some rooms around so the bedrooms will be cooler? . . . . . ☐

Comments, things we'd like to change:

Will we use the home office a lot? . . . . . ☐

If so, will it be a pleasant place to work and cost less to cool? . . . . . ☐

Comments, things we'd like to change:

Tips

- ❍ Consider features that make your home safe and easy to live in as you get older.
- ❍ Choose laundry appliances that are energy and water efficient. The best clothes washers on the market use less than half the water of the least efficient.

LOOK FOR THE STARS

The biggest water users inside a home are the:

- shower
- toilet
- washing machine.

Look for the water efficiency star label – the more stars, the better the water savings.

FIND THE BEST PRODUCTS

There are star ratings for energy as well as water. These websites can help you find the white goods with the best star ratings:

- water star ratings: www.waterrating.gov.au
- energy star ratings: www.energyrating.gov.au

RATE YOUR HOME

You can use the NABERS website to check how much energy and water your household uses compared to similar Australian households: www.nabers.com.au

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *Reducing Water Demand*
  - *Safety and Security*
  - *The Adaptable House*
  - *Orientation*
  - *Passive Cooling*

6 Selecting fixtures and appliances

Don't get into hot water with your bills!

Water heating is responsible for about 15% of the average home's electricity use and greenhouse gas emissions in the tropics.

The first step is to use less hot water by installing water efficient showerheads, washing machines, dishwashers and taps. It's a double saving – you'll save both energy and water!

Choosing an efficient hot water system is your chance to save money and do your bit for the environment. It may cost you a little more upfront, but pays for itself over time through energy savings.

Choosing an efficient hot water system adds value to your home and can also help you meet local council or State regulations. Electric storage water heaters are being phased out across the country, and it may not be possible to install them in new homes after 2012.

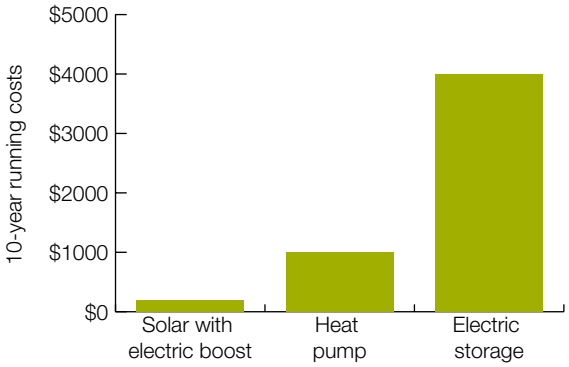
In many areas in the tropics, access to piped gas is limited, but solar and heat pump water heaters are very efficient alternatives that will save you a lot of money over their lifetime. Solar water heaters are usually able to provide 95% or more of your hot water for free. They have a booster for days when there is not enough sunshine to heat the water. However, if you don't use a lot of hot water you may find that you rarely need to use the booster.

If you can't install a solar system, a heat pump is the next best choice. Heat pumps extract heat from the air to heat the water and work well in warm humid climates.

Remember to turn off your water heater at the switchboard if you go on holidays to save it heating water while you're away. Ask the electrician to make the switch easy to access and clearly labelled when it is installed.

New solar and heat pump systems may be eligible for financial incentives through government and local council programs.

Typical 10-year running costs of hot water systems in Darwin



Based on using 100 litres of hot water per day and an electricity price of $0.20/kWh.

"Even when it's cloudy we only have to turn our solar booster on every few days"



Get the most out of your efficient hot water system:

- Install a 3-star showerhead for big savings.
- Locate your hot water system close to where you'll use it, near the bathroom, laundry and kitchen to reduce the time it takes for the tap to run hot.
- Use a shower timer to remind everyone in the household to save water.

Go solar

Photovoltaic (PV) panels convert sunlight into electricity. The tropics are a great place for PV systems as there is a lot of sunlight all year round. More and more people are installing PV panels on their homes to offset rising electricity costs. The price of systems is coming down very quickly.

PV panels don't need direct sunshine to work. They actually convert light into electricity and will even work on a cloudy day – although bright sunshine will produce more energy.

Even if you don't want to install a system now, think about having a suitable area on your roof where you could put a system in the future. A 1.5-kW system will need about 12 square metres. A 1.5-kW system will produce about 2,600 kWh of electricity each year. Make sure the installation complies with any local cyclone rating requirements.

In some places you will be eligible to be paid a feed-in tariff for the energy your PV system generates. The feed-in tariff schemes vary from place to place so check the details with your electricity retailer.

Government assistance can help bring down the cost of photovoltaic systems. However, if you want green electricity but can't afford the upfront cost of a photovoltaic system, ask your electricity retailer about government accredited GreenPower. For a small extra cost you can purchase electricity from renewable sources like solar and wind.

"Our 1.5-kW PV system produces about one third of the electricity we use."

Checklist



Our hot water and electricity

Do we have a suitable unshaded roof area for solar hot water and photovoltaic panels? . . ☐

Type of hot water system we're looking for:

Will we use electricity from renewable sources? (GreenPower or PV panels) . . . . . ☐

DID YOU KNOW?

- Electric storage hot water systems are being phased out by Australian governments over the next couple of years for both new and existing homes. Buying an energy smart water heater now will put you in front. In a few years, home purchasers are likely to expect highly energy efficient hot water systems as a standard feature.
- International experts predict that there will be dramatic increases in the cost of electricity, gas, petrol and water in the future. Get ahead by choosing a home that helps you save on these now and has the best resale features.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  – *Hot Water Service*
  – *Photovoltaic Systems*
- Australian Government's climate change website; search online: 'hot water systems phase out'
- Green electricity:
  – www.greenpower.gov.au
  – www.greenelectricitywatch.org.au
- Government rebates: www.livinggreener.gov.au
- COOLmob, *Greenhouse Friendly Design for the Tropics*: www.coolmob.org
- COOLmob, *Greenhouse Friendly Hardware for Top End Housing*: www.coolmob.org
- COOLmob, *Greenhouse Friendly Habits in the Top End*: www.coolmob.org

6 Selecting fixtures and appliances

Keep your cool

Many of the tips covered earlier in this Guide help make your home naturally cooler and more comfortable year round so you won't need to spend much (or perhaps anything) on air conditioners. These include the tips on breezes, shading, insulation and glass. Follow these tips and talk to your designer and builder about ensuring your home will be as cool as possible.

Air conditioning systems not only cost more upfront, but will keep on costing you money. They are big power users and contribute to peak load on the electricity system, the major cost in meeting power demand.

If you do install air conditioning you can save money while keeping comfortable by:

- using fans instead of the air conditioner when you can; they are much cheaper to run, but turn them off when you leave the room as they cool people and not the air
- choosing efficient individual room air conditioners over whole house ducted systems – whole house systems are more expensive to buy and usually cost much more to run
- only cooling the rooms you need, and making sure the cooling is 'zoned' so you can switch different areas on and off
- making sure the systems are the right size for your needs – oversized systems waste money in upfront costs and running costs
- making sure your air conditioner has a high energy efficiency star rating – efficiency can vary greatly between models; all units up to a rating of 7.5 kW have an energy label to help you choose
- locating outdoor air conditioner components where they will be shaded, and
- checking your thermostat settings to avoid overcooling.





Using fans at the same time as the air conditioner lets you turn the thermostat up by a few degrees as the fans provide extra air movement to keep you cooler. Try running your air conditioning at no less than 28°C. If not using fans, try to keep it above 26°C.

When you're not using your air conditioning for prolonged periods, such as in the dry season, turn it off at the switchboard to save standby energy.

Installing fans in outdoor living areas helps to keep you cool when there is little or no breeze.

Running costs per year

6 ceiling fans	$250 – $300
Typical split air conditioner	$1200 – $1500

Based on 12 hours a day usage 300 days a year for fans and 10 hours a day for 250 days for AC; 6 fans at 80 W each, AC at 3.5 kW. Electricity price of $0.20/kWh. Allows for less than full load operation of fans and AC.



Checklist

Our cooling fixtures and appliances

Have we locked in good home design features to keep our home cool? . . . . . ☐

Can we use fans instead of air conditioning? . ☐

How can we save further on cooling?

Tips

- ❍ Consider fans instead of air conditioning.
- ❍ If you're planning to use air conditioners choose models with a high star rating.
- ❍ If you're planning on central air conditioning make sure it's zoned and not oversized.
- ❍ The external compressor unit of an air conditioner can be noisy so think carefully about where to locate it. It should be in a cool shaded location at ground level for efficiency and ease of servicing.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  – *Passive Cooling*
  – *Heating and Cooling*
- COOLmob, *Greenhouse Friendly Hardware for Top End Housing*: www.coolmob.org

6 Selecting fixtures and appliances



"We changed our lighting plan when we realised how hot and uncomfortable it is sitting under halogen downlights."

See the light

Lighting is responsible for about 10% of the average household's electricity bills but in some homes it can be much higher. You could be wasting hundreds of dollars a year lighting your home. The first and cheapest solution is to maximise use of natural light through good home design.

Avoid recessed downlights if possible. You need many more globes to light a room using these compared to more traditional pendant or flush mounted fittings.

Low voltage halogen downlights use a lot of power – low voltage is not low energy. It's the watts that matter. They also get very hot, adding to discomfort and cooling bills. If you do choose halogens, use IRC (infra-red coated) 35 W globes instead of 50 W globes – or even try using 20 W globes, they are often bright enough.

Choosing energy saving lighting is one of the easiest and most cost effective things you can do. In some parts of Australia, housing regulations require the use of energy saving lighting.

Compact fluorescent lights (CFLs) are a great alternative to halogen lights because they save a lot of energy and last about 4 to 5 times longer – so you won't have to replace them as often. Just remember to choose 'warm white' globes if you want a pleasant, comfortable light. Some LED lights save even more energy than compact fluorescents and can last three or four times longer. Good quality LED lights are more expensive than CFLs, but the price is coming down rapidly.

Room lighting cost estimates

Options below provide similar light levels in an average room

	Standard bulbs		Downlights		
	15 W CFL pendant	53 W halogen pendant	6 x 13 W CFL downlights	4 x 6.5 W LED downlights	4 x 35 W halogen downlights
Lifetime (hours)	10,000	2,000	15,000	50,000	3,000
10-year cost*	$55	$175	$255	$415	$575

*Includes cost of globes. Assumes 4 hours per day use and $0.20/kWh.

Choose appliances wisely

In a typical home in the tropics, air conditioning uses the most energy each year followed by refrigerators and freezers, and the washing machine uses the most water each year.

A smart choice is one that continues to save you money for the life of the appliance. The questions to ask are:

- What size do I need?
- Does it have a high star rating?

Star ratings are provided on all electrical white goods to help you make the best choice. There are star ratings for both energy and water so a washing machine will have one star rating label for energy use and another for water use. The more stars, the more efficient the appliance.

Choosing the right size for your needs is also important – a big 4-star fridge uses more energy than a small 4-star fridge. Look for the actual estimates of energy and water use on the label.

Televisions now have an energy label to help you choose the most efficient model. Some TVs use more than three times the energy of others, even when comparing similar screen size and type, and give off more heat. Your choice could end up saving you hundreds of dollars on your electricity bills. Bigger television screens tend to use more energy, so don't buy one that's bigger than you really need.

If you're choosing home entertainment equipment, some appliances have an 'ENERGY STAR' label which shows they are efficient in 'standby' mode.

Checklist

Our lighting and appliances

Does our home design make good use of natural light? . . . . . ☐

Our lighting requirements:

Estimated cost of running our lighting per year:

The energy star rating of our fridge:

The water star rating of our washing machine:

Our other major energy-using appliances:

Tips

- ❍ Work with your builder to choose energy saving lighting.
- ❍ Don't go overboard on downlights. Lighting a room with a lot of energy saving downlights can use more energy than a single inefficient light.
- ❍ Install an outdoor clothesline – let the sun and breezes dry your clothes for free instead of paying to run a dryer.

DID YOU KNOW?

A kitchen lit by 10 halogen lights for five hours a night can add about $140 a year to electricity bills.

Halogen downlights get very hot and need a large gap between the ceiling insulation and the fitting to avoid risk of fire. This reduces the effectiveness of your insulation.

Compact fluorescent bulbs use about 30% of the energy of a halogen incandescent bulb and last 4–10 times longer.

A medium-size fridge with a high star rating can save you $650 in running costs over its lifetime, compared to a low star-rated fridge of the same size. And that doesn't reflect the impact of future electricity price rises!

A 5-star front-loading washing machine uses about 50 litres of water per wash compared to 140 litres per wash for a 1-star top-loader.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  – *Lighting*
  – *Appliances*
- Australian Government's climate change website; search online: 'incandescent lighting phase out'
- COOLmob, *Greenhouse Friendly Hardware for Top End Housing*: www.coolmob.org

7 Selecting colours and finishes

Don't be floored

Tiles, polished concrete or timber are suitable flooring options for the tropics, and are low maintenance and easy to clean. The best type and design of floor is dependent on whether you have an elevated or ground level house.

Naturally ventilated homes with raised timber floors will usually benefit from not having any insulation under the floor. At night the floor will interact with the outdoor temperature and provide some cooling. However, if the room above the floor is air conditioned, insulation is needed.

Masonry or concrete slab floors can work well provided they are kept out of the sun. They are slow to respond to temperature change, so they keep cool longer. They will usually be cool compared to the midday air temperature, allowing you to feel cooler in the heat. But they can feel warmer at night as they release the heat they've stored during the day. Find out more about this in the Your Home *Thermal Mass* fact sheet.

If using concrete slabs, ask your builder about concrete that uses fly ash, an industrial waste product, to reduce the amount of Portland cement required in the mix. It has a similar cost, and is a much more environmentally friendly option.

If you use timber, make sure it comes from certified sustainably managed forests. There are plenty of cost effective and stylish Australian timbers from these sources, so here's your chance to do the right thing by the environment without compromising on style. Bamboo flooring from sustainable sources and recycled timber are also good choices. Make sure you have good termite protection for all types of timber. There are non- or low toxic termite treatments available.

Make sure your builder uses low VOC finishes, sealants and glues (for information on VOCs see below) for your floors. Timber that is factory sealed with low VOC products is even better as any fumes will have almost completely disappeared by the time they are installed in your home.

Colour your world

Your exterior colour scheme can actually have an impact on indoor comfort! Light-coloured walls and roofs reflect heat and can help to keep your home cool. The roof colour makes the most difference, as roofs usually get more direct sun than any other part of the house.

Use light colours for external hard surfaces like paving and driveways so they don't absorb as much heat.

Ideally interior paint colours should be the last thing you choose after cabinets, carpets and floor tiles. This is because there are so many paint colours to choose from, but far less selection with other finishes.

White paints have different bases – yellow, pink, fawn and grey – and it's important you follow the 'family colour' throughout, so that your paint selection has the same base as your tiles and cabinets. Your builder or designer will be able to help with this.

Using light-coloured interior paints improves daylight levels inside your home. As well as creating a light and airy feel you're unlikely to need lights on during the day, which saves money.





Sleek contemporary kitchens are achieved with plain cabinet doors without panelling. White laminates and timbers go well with this look. If you prefer the traditional look, this can be achieved with warm colours and panelling on cupboard doors. Remember that bright, dominating colours in permanent kitchen fixtures can be expensive to change if you tire of the colour. Think about using wall paints or decorative display pieces instead – they can also provide any bright accents you may want.

Some paints are healthier than others

Regular paints give off low level fumes that can cause breathing irritations and headaches. Painted surfaces can continue emitting fumes for months after painting. The good news is that many paint companies now offer healthier 'low emission' products for the same cost. (These are also known as 'low VOC' products – see below.)

If you want to avoid paint fumes altogether, look for paints that contain natural, non-petrochemical ingredients. These cost a bit extra but are worth it if you have allergies or young children.

"When we painted our old place you could smell the paint for weeks. We're glad we went with low emission paints this time."

Checklist

Our colours and finishes

Examples of exterior colour schemes that we like:

Have we used light exterior colours to reduce unwanted heat gain? . . . . . ☐

Examples of interior colour schemes that we like:

The types of flooring in our home:

The joinery used in our home (cabinets, benches, built-ins, etc.):

The paints and varnishes used in our home:

Have we specified materials that are either natural or low emission products? . . . . . ☐

Tips

- ❍ Make sure timber used in your home comes from certified sustainably managed forests – ask your builder to get assurances from suppliers.
- ❍ Consider alternative options like bamboo or recycled timber flooring – these are stylish, durable and environmentally friendly.
- ❍ Check that cupboards, floor finishes, paints and varnishes are either natural or low emission products.

SMART TIPS

- Use natural paints in nurseries and bedrooms of allergy sufferers.
- Good natural ventilation in your home helps reduce the effect of paint fumes.
- It's not just paints and varnishes that can give off low level fumes – so can common materials like kitchen cabinets, soft furnishings and floor coverings. This is due to the presence of 'volatile organic compounds' (VOCs). The good news is that many healthier no or low VOC alternatives are available.

FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *Material Use: Introduction*
  - *The Healthy Home*
  - *Thermal Mass*
- COOLmob, *Greenhouse Friendly Design for the Tropics*: www.coolmob.org
- Cairns Regional Council, *Cairns Style Design Guide*

8 Designing your garden

Go for the great outdoors

Your garden and outdoor areas are an extension of your home. The best living spaces are those which flow from inside to outside so you can make the most of alfresco living. You can use clever landscape design to:

- shade your home and outdoor areas
- channel cooling breezes into your home, and
- shelter indoor and outdoor areas from winds.

Depending on where you live, up to 60% of the average home's water can be used for the garden. So the garden is a great place to save water. Being waterwise doesn't mean you can't have a beautiful garden. By carefully planning your garden, you can make it look great, be water efficient and easy to look after during the dry parts of the year.

Getting the soil right is the first step. Soils in the tropics are often not good at retaining moisture and nutrients. Use mulch and organic fertilisers to improve the soil condition.

Planting is one of the best ways to provide shade. Evergreen plants work well in tropical climates where year-round shade is required. Grow suitable trees that will provide shade for your outdoor areas as well as for your house. Keep the lawn to a minimum. Waterwise garden beds use less water and require less maintenance than lawn.

You can save a lot of water by choosing local native plants and groundcovers. They also look great and attract native birds. Your local council or water authority will usually be able to provide you with a list of suitable plants. Group together those plants that have similar watering requirements. You may also want to save on grocery costs by growing your own vegetables, fruit and herbs. Growing your own food benefits the environment in a number of ways. It often tastes better too!

Get specialist advice on the most water efficient irrigation and water management system for your garden. Avoid watering in the heat of the day and when it's windy. Use timers on reticulation systems to make sure you don't over water.

Hard surfaces like concrete or paving can store and reflect heat, and can also create stormwater run-off problems during periods of heavy rain. Minimise hard surfaces where possible, and use permeable paving that allows water to soak through into the earth below.

Pools can be a great addition to entertainment and comfort, but they can also use a lot of water and energy. If you're building a pool, try to place it in a shady sheltered spot to reduce evaporation and make sure you use a pool cover to save water. Covers can reduce evaporation losses by 70% or more – and they also make cleaning a lot easier and reduce chemical use.





Pool filter pumps can account for up to a quarter of your power bill, so consider using a solar powered pump or make sure you buy an efficient variable speed pump, and use a timer to make sure it doesn't operate for longer than is necessary.

Rainwater and greywater

Many homes now incorporate rainwater tanks with their guttering. To get the most out of your tank make sure you choose a reasonable size and connect it to indoor uses like the toilet and the washing machine. Avoid using it just for watering the garden. In the wet season, your garden doesn't need extra water and it's more efficient to use the tank water indoors.

There are many different choices of rainwater tanks, including clever designs for tight spaces. Make sure your system is insect proof so pests can't breed in the still water.

Domestic grey water recycling systems are also becoming more popular, collecting and treating wastewater (from the shower, laundry etc.) for reuse in the garden or within the home. Regulations vary so check first with your local authority, and then make sure you seek expert advice on choosing and maintaining your system. If you're re-using laundry water on the garden you'll need to use special detergents and powders. Even if you're not going to install a system straight away, do the necessary planning and install pipes and fittings during construction to allow you to re-use your grey water in the future.

Checklist

Our outdoor living

Opportunities to use landscape to help cool the house:

Strategies to save water in the garden:

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FIND OUT MORE

- Your Home fact sheets: www.yourhome.gov.au
  - *Sustainable Landscapes*
  - *Outdoor Water Use*
  - *Rainwater*
  - *Wastewater Re-use*
- ABC Gardening Australia: www.abc.net.au/gardening
- Top End Native Plant Society: www.topendnativeplants.org.au
- PowerWater NT, *Waterwise Gardening in the Top End*; search online: 'Waterwise gardening in the top end'

Published by Investa Property Group
Level 6 Deutsche Bank Place; 126 Phillip Street
Sydney NSW 2000 Australia; www.investa.com.au

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First printed May 2012
Tropical Home Buyer's Guide : a step-by-step guide to buying a new home
ISBN 978-0-9804214-3-9
1. House buying - Australia. 2. Home ownership - Australia.
I. Investa Property Group. II. University of Technology, Sydney. Institute for Sustainable Futures. III. Defence Housing Australia

Disclaimer

This document has been prepared as a guide only and is unlikely to contain all the information that prospective home buyers may expect or require in order to make informed decisions on home building choices. The data is to the best of the authors' knowledge accurate as at the date of publication but may vary from time to time and with location. Prospective buyers should therefore rely on their own enquiries and obtain appropriate expert advice as part of their decision-making process.

Acknowledgements

This guide was developed with funding from Defence Housing Australia. The following organisations collaborated on the production of this Guide: the Institute for Sustainable Futures at UTS and Investa Property Group. This guide draws on a large amount of material from an original production designed for temperate climates in Australia, first published in 2008. The following organisations are acknowledged for reviewing this guide and providing helpful comments: Defence Housing Australia; Killarney Homes; Finlay Homes; Build Up Design.

The following organisations collaborated on the original version of this Guide for temperate climates: The Australian Government Department of the Environment, Water, Heritage and the Arts; Department of Environment, Climate Change and Water NSW; Queensland Government Environmental Protection Agency; The Building Commission, Victoria; Sustainability Victoria; Landcom; Department for Planning and Infrastructure, Government of Western Australia; Western Australian Planning Commission; Institute for Sustainable Futures at UTS; Centre for Design at RMIT University; More Communication Design; Clarendon Residential Group; Investa Property Group.

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Investa Property Group
www.investa.com.au

Defence Housing Australia
www.dha.gov.au

Institute for Sustainable Futures,
University of Technology, Sydney
www.isf.uts.edu.au

Tropical Home Buyer's Checklist

Getting started (Tropical Home Buyer's Guide p. 2 & 3)

Our family's 'must haves':

Our family's 'wish list':

Number of bedrooms:

Number of bathrooms:

Other important features for us:

Tips

- ❍ Think about how often your family might use a formal living or dining area before you add them to your 'must have' list.
- ❍ Check that your 'must have' list includes features that save on running costs and make your home more attractive to future buyers, like energy efficient housing design, outdoor living areas and solar hot water.
- ❍ Could you save on space and money by creating flexible and multi-functional spaces?

Planning your budget (p. 4 & 5)

Our total budget:

Cost of the housing package/s we're interested in:

What else (not included in the package) do we need to budget for, and how much?

Will we factor in a contingency for unexpected costs? If so, how much?

Tips

- ❍ Less is often more. Design a home that provides everything you need in the most space-efficient manner possible.
- ❍ Smaller homes can help save on construction costs and ongoing costs, because you have less space to light, cool, furnish and clean. They take up less room on your block, leaving more outdoor area and more space between houses for better ventilation.

Choosing where to live (p. 7)

Suburbs or estates our family is considering:

Will we be able to walk or cycle to everything we need – shops, schools, parks, public transport? . . . . . ☐

Does the block have good access to cooling breezes? . . . . . ☐

Is the block well shaded by trees or other features? . . . . . ☐

Our location 'must haves':

Best location for us would be:

Will we be able to position a home on our block to take best advantage of cooling breezes and/or shade? . . . . . ☐

Will any neighbouring buildings have an effect on our block's privacy, views or access to cooling breezes? . . . . . ☐

Best block for us would be:

Tip

- ❍ Check the walking and cycling routes near your preferred location – how long will it take to walk or cycle to the nearest shops or to schools?

Choosing our new home (p. 8 & 9)

Homes our family is considering:

Our preferred home:

Is it a functional floor plan without wasted space and with plenty of storage? . . . . . ☐

Is it a good fit for our block and able to catch the cooling breezes? . . . . . ☐

What would we change about this plan?

Tips

- ❍ Talk to your builder about making no cost or low cost changes – for example, can you flip or rotate the plan?
- ❍ If you have a steeply sloping block, choose a split-level or raised floor design.

Choosing our new home (continued, p. 10 & 11)

The star rating of our home will be: (Will we score 6 stars or more?) . . . . . ☐

Which direction do the cooling breezes come from on our site in the wet and dry seasons?

Is our house positioned to allow air to flow inside? . . . . . ☐

Have we positioned our windows to minimise heat gain? . . . . . ☐

Are our windows and doors well shaded? . . . . . ☐

Can we avoid or reduce the cost of air conditioning by using natural ventilation, shading and ceiling fans instead? . . . . . ☐

Comments, things we'd like to change about our home design:

Tips

- ❍ Consider adding extra doors to close off rooms for ease of cooling – this will also reduce your electricity costs.
- ❍ Check your ceilings will be high enough to accommodate fans – this can help save on cooling costs.
- ❍ If you have views to the west or east, use small picture windows to capture the view while minimising unwanted heat gain.

Choosing our new home (continued, p. 12 & 13)

Do we need to consider well-shaded high-performance glass or double glazing? . . . . ☐

Where?

Have we chosen windows and doors that can open up wide to allow airflow while still keeping our home secure? . . . . . ☐

Have we included the best possible insulation under roofs, in ceilings and in walls? . . . . . ☐

Do we need floor insulation? . . . . . ☐

Comments, things we'd like to change about our home design:

Tips

- ❍ Check the WERS label on windows and glass doors to help you make the best choice.

Living areas & kitchen (p. 14 & 15)

The living areas we need are:

Will our living areas be well shaded? . . . . . ☐

Can windows be opened on more than one side of living areas to let cooling air through? . . . ☐

Can our living areas be opened up or closed as needed, for economical cooling? . . . . . ☐

Comments, things we'd like to change:

Does the layout of our kitchen allow easy reach between different activities? . . . . . ☐

Do our kitchen cupboards use low emission particle board and finishes? . . . . . ☐

Comments, things we'd like to change:

Tips

❍ Think about including a multi-bin sorter and compost container when you're choosing your kitchen garbage system – this can make recycling much easier for the whole family.

Bathrooms, laundry, bedrooms & home office (p. 16 & 17)

Will our bathrooms and laundry have windows for good natural ventilation? . . . . . ☐

Have we chosen the most water efficient plumbing fixtures available? . . . . . ☐

Comments, things we'd like to change:

Can we swap some rooms around so the bedrooms will be cooler? . . . . . ☐

Comments, things we'd like to change:

Will we use the home office a lot? . . . . . ☐

If so, will it be a pleasant place to work and cost less to cool? . . . . . ☐

Comments, things we'd like to change:

Tips

❍ Consider features that make your home safe and easy to live in as you get older.

❍ Choose laundry appliances that are energy and water efficient. The best clothes washers on the market use less than half the water of the least efficient.

Hot water & electricity (p. 18 & 19)

Do we have a suitable unshaded roof area for solar hot water and photovoltaic panels? . . . . ☐

Type of hot water system we're looking for:

Will we use electricity from renewable sources? (GreenPower or PV panels) . . . . . ☐

Cooling fixtures & appliances (p. 20 & 21)

Have we locked in good home design features to keep our home cool? . . . . . ☐

Can we use fans instead of air conditioning? . . . ☐

How can we save further on cooling?

Tips

❍ Consider fans instead of air conditioning.

❍ If you're planning to use air conditioners choose models with a high star rating.

❍ If you're planning on central air conditioning make sure it's zoned and not oversized.

❍ The external compressor unit of an air conditioner can be noisy so think carefully about where to locate it. It should be in a cool shaded location at ground level for efficiency and ease of servicing.

Lighting & appliances (p. 22 & 23)

Does our home design make good use of natural light? . . . . . ☐

Our lighting requirements:

Estimated cost of running our lighting per year:

The energy star rating of our fridge:

The water star rating of our washing machine:

Our other major energy-using appliances:

Tips

- ❍ Work with your builder to choose energy saving lighting.
- ❍ Don't go overboard on downlights. Lighting a room with a lot of energy saving downlights can use more energy than a single light.
- ❍ Install an outdoor clothesline – let the sun and breezes dry your clothes for free instead of paying to run a dryer.

Colours & finishes (p. 24 & 25)

Examples of exterior colour schemes that we like:

Have we used light exterior colours to reduce unwanted heat gain? . . . . . ☐

Examples of interior colour schemes that we like:

The types of flooring in our home:

The joinery used in our home (cabinets, benches, built-ins, etc.):

The paints and varnishes used in our home:

Have we specified materials that are either natural or low emission products? . . . . . ☐

Tips

- ❍ Make sure timber used in your home comes from certified sustainably managed forests – ask your builder to get assurances from suppliers.
- ❍ Consider alternative options like bamboo or recycled timber flooring – these are stylish, durable and environmentally friendly.
- ❍ Check that cupboards, floor finishes, paints and varnishes are either natural or low emission products.

Outdoor living (p. 26 & 27)

Opportunities to use landscape to help cool the house:

Strategies to save water in the garden:

Will we grow our own vegetables and herbs? . . . ☐

How many litres will our rainwater tank hold?

What will our rainwater tank be plumbed in to?

Will we re-use our wastewater? . . . . . ☐

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