

# Buying an existing home

Careful research and assessment of existing homes to buy improves the likelihood that your new home will be comfortable, cost effective to run and maintain, and hold its value into the future. The time spent now should help minimise future home improvement costs, or at least make you aware of the likely cost and effort needed to create your sustainable dream home.



Photo: Kathie Stove

Spend time assessing existing homes for their potential to be comfortable and sustainable.

## Pre-purchase research

The thermal performance of the existing portions of your new home is often cast in brick, concrete or stone when you buy it; however you can improve thermal performance during design and construction of additions. Upgrading can be expensive but the cost can be greatly reduced by seeking expert advice and choosing carefully.

### A home for your climate

Start your research by identifying your climate zone from the map in *Design for climate* and develop a good understanding of how to choose a home to work with rather than against your climate.

Make achieving thermal comfort with the lowest ongoing operating cost central to your decision making at every stage. Passive heating and cooling is free to operate but upgrading an existing home to achieve better thermal comfort (more stars under the Nationwide House Energy

Rating Scheme (NatHERS)) costs money – particularly in climates with high auxiliary heating or cooling needs. (see *Design for climate*)

### What's energy efficiency worth?

Research in the ACT (where disclosure of Energy Efficiency Ratings has been mandatory for over a decade) found that, in an average market, buyers were prepared to pay up to \$15,000 more for each additional star (DEWHA 2008).

The cost of upgrading the right 2 star home to 6 or 7 stars is much less than the worth buyers put on it. However, a badly designed, built or oriented home could cost significantly more.

## Your dream home in affordable steps

If you undertake home improvements, a well-planned, staged journey that meets your needs at each stage of your life will often deliver a more affordable, comfortable and flexible lifestyle than trying to do everything at once.

Before entering the market or planning your improvements, do your homework on the likely cost of modifications, upgrades and additions. Assess the range of costs associated with:

- repairs, maintenance and rectification
- retrofitting sustainable features
- minor renovations and upgrades
- major renovations and additions. (see *Planning home improvements; Preliminary research; Affordability*)

## Inspecting homes

Inspecting a home allows you to see what you are getting in space, layout and structure. However, expensive hidden traps and inexpensive opportunities are often missed by inexperienced buyers.

Sometimes an apparent bargain can be difficult or very costly to retrofit for sustainable performance. Conversely, a seemingly expensive home might be simply and cost effectively upgraded. These are complex assessments and decisions.

# Before you begin

## Buying an existing home

A thorough pre-purchase evaluation is a critical first step in choosing an existing home to buy and later renovate. Consider engaging an experienced, professional consultant (designer or builder) to identify the home's potential, expose hidden problems and balance the cost of rectification or renovation against purchase price. This advice can more than pay for itself.

*A small investment in expert advice at this stage can avoid years of expense and frustration.*

### Develop a wish list

Start to develop a wish list of features you want in a home. Note which features are not negotiable and which are desirable but not entirely necessary. An assessment of your existing home to determine what works well about it and what doesn't can be a good starting point. (see *Preliminary research*)

Three 'not negotiable' features in an existing home are:

- solar access for passive heating, solar hot water and rooftop power generation
- access to cooling breezes (direct or deflected)
- low transport requirements (close to shops, schools, work and public transport). (see *Passive solar heating; Passive cooling; Transport*)

#### ► Staying cool

In hot humid climates rooftop solar access is desirable for solar hot water and photovoltaic generation but shading of all walls and glazing is highly preferable.

Solar cooling systems will soon be a viable alternative to traditional air conditioners.

A house with these basic characteristics can usually be adapted to deliver a sustainable lifestyle at relatively low cost. A house without them can become an expensive source of frustration for families wanting to achieve a low cost, sustainable lifestyle.

Things like extra space or rooms, more cupboards and a new kitchen or bathroom can be added as you renovate or extend the home. When renovating you can also improve:

- thermal comfort (move or replace windows and glazing, add insulation or shading)
- energy efficiency (replace lighting and appliances)
- water efficiency (install efficient toilets, showerheads and taps, a rainwater tank and a garden with low water requirements).

### Preliminary market research

Find out what's available that you can afford.

- Seek professional advice.
- Choose a suburb or locality that suits your lifestyle and reduces transport dependence.
- Compile a list of homes that best meet your wish list and start the inspection process.

If you live in the ACT, use the Energy Efficiency Rating provided by vendors to help you choose between similar properties.

Real estate agents can provide useful advice on how any renovations you consider might affect the value of your home, although this is often a short-term view based on today's market. It may not take into account rising energy prices or shifts in environmental awareness. However, demand for sustainable housing is growing and some large agency chains have their own websites recommending sustainable upgrades. (see *Preliminary research*)



Photo: Bill Parker

You may find a passive solar house on the market.

### Minimum passive heating and cooling requirements

In cooler climates (where heating is the predominant need) and the home includes thermal mass, solar access to glazed areas should be a 'not negotiable' feature. (see *Thermal mass*)

Where this is unachievable and the home has other advantages, consider active heating systems with solar collectors located in solar access zones on the roof and connected to in-slab or hydronic heating systems. These can be equally effective but add cost. (see *Heating and cooling*)

In mild climates where cooling makes a substantial contribution to energy use, access to cooling breezes can be equally as important as access to sun, but good access to both is ideal.

In hotter, more humid climates where cooling is the only requirement (e.g. Darwin), solar access to windows and walls is undesirable but rooftop access is important for solar hot water and rooftop electricity generation.

### Assessing likely thermal comfort

Seek advice from an accredited building sustainability assessor for each home on your short list. The advice should compare the heating and cooling requirements for each home and what might be needed to improve them. Find a local building sustainability assessor through the Association of Building Sustainability Assessors ([www.absa.net.au](http://www.absa.net.au)) or Building Designers Association of Victoria ([www.bdav.org.au](http://www.bdav.org.au)).

Where a NatHERS star rating is available for the homes you are looking at, a minimum 5 star rating (with potential for simple upgrade to 6+ stars) is desirable, as a rule of thumb, in climates where heating is the predominant need. The Building Code of Australia has required that homes built since 2006 have a minimum NatHERS star rating of 5, and since 2010 a minimum rating of 6, though this has been applied differently across states and territories — check with your building regulator. Star ratings are based on standard occupation and usage patterns, which vary enormously between households and so can't predict your actual household energy consumption. To see how your family performs against an average household in your climate, conduct a free NABERS rating ([www.nabers.gov.au](http://www.nabers.gov.au)) based on 12 months of actual energy and water bills for your household.

In milder climates, the energy savings delivered by additional stars are lower, and equivalent carbon emission reductions from existing homes can often be achieved more cost effectively with active solar heating, passive cooling and fans, solar hot water and rooftop solar electricity generation.

When looking for a home or planning a renovation, be aware of the relative cost–benefit of each of these retrofit options in your climate zone and factor them into your assessment and negotiations. (see *Design for climate*)

### Structure, damp, termites and fire

Structural cracking due to reactive (clay) soils or subsidence can reduce the life span of the home if left unattended. It also causes heat loss and draughts and can be expensive to repair in masonry construction. Check for cracks, or signs of where they have been repaired, and have them checked by a builder or engineer before making an offer. The more extreme cycles of drought and heavy rain associated with climate change are likely to accelerate the cracking process in areas with reactive soils.

Rising damp is unsightly and has adverse health and air quality implications. It also reduces the life span of a home and, while relatively simple to rectify in most cases, it can be very expensive.

Your contract should be conditional on receipt of a satisfactory, certified termite inspection in all but the few Australian regions free from termite risk.

#### Termites

Well over 100,000 Australian homes suffer from termite attack each year and rectification costs range from a few thousand to tens of thousands of dollars, placing termite attack among the most common causes of reduced building life span.

Termite risk factors include inadequate subfloor clearance and ventilation, and lack or deterioration of physical barriers including ant caps. Innovative barriers may have been used in more recent homes. In high risk areas, it is advisable to check council records that these homes were inspected and certified during construction. Ask to sight any recent inspection and check with the inspector who will have a record of the property.

Check with the local council and rural fire service about bushfire threat to homes you are considering and factor this into subsequent decision making.

### Short-listing homes

After inspecting a broad range of properties, develop a short list of properties and compare it to your wish list or brief. Decide which properties best meet your brief or can be adapted cost effectively.

# Before you begin

## Buying an existing home

Narrow your list to one or two properties and:

- choose a designer or builder with sustainability expertise and have them attend your next inspection to identify problems, answer questions and suggest solutions
- ask your expert to help you list and firm up your estimate of the cost of upgrading each property to meet your performance wish list – particularly its thermal comfort.

*Be creative in your choices and consider location over size. You can always add to your home but you can't relocate it.*



Photo: Paul Downton

Look for houses with thermal comfort.

## Closing the deal

Factor all these costs and considerations into your negotiations and make offers based on the cost of achieving adequate thermal comfort in addition to your other needs and sustainability goals. Make these costs known to the agent and vendor and (market permitting) be prepared to walk away if limitations are not adequately addressed in the purchase price. By doing this, you are educating the market and helping to create sustainable change.

## References and additional reading

- Association of Building Sustainability Assessors. [www.absa.net.au](http://www.absa.net.au)
- Bureau of Meteorology. 2011. Climate education: sustainable urban design and climate. <http://reg.bom.gov.au>
- Building Designers Association of Victoria. [www.bdav.org.au](http://www.bdav.org.au)
- Cairns Regional Council. 2010. Cairns style design guide. [www.cairns.qld.gov.au/](http://www.cairns.qld.gov.au/)
- COOLmob: Sustainable living for the tropics. [www.coolmob.org](http://www.coolmob.org)
- Department of Housing and Regional Development. 1995. Australian model code for residential development (AMCORD). Canberra. [www.lgprmcouncil.gov.au](http://www.lgprmcouncil.gov.au)
- Department of the Environment, Water, Heritage and the Arts (DEWHA). 2008. Energy efficiency rating and house price in the ACT: modelling the relationship of energy efficiency attributes to house price: the case of detached houses sold in the Australian Capital Territory in 2005 and 2006. National Framework for Energy Efficiency.
- Growth Management Queensland. 2011. Design guide for 6-star energy equivalence housing: a guide to assist with achieving a 6-star house. [www.hpw.qld.gov.au](http://www.hpw.qld.gov.au)
- Hollo, N. 2011. Warm house cool house: inspirational designs for low-energy housing, 2nd edn. Choice Books, Sydney.
- LivingGreener. [www.livinggreener.gov.au](http://www.livinggreener.gov.au)
- LJ Hooker. Liveability: live the life you want, sustainably. [www.liveability.com.au](http://www.liveability.com.au)
- Sustainable Energy Authority Victoria (SEAV). 2006. Energy smart housing manual, Ch. 8, Air movement. [www.aprbuildingservices.com.au](http://www.aprbuildingservices.com.au)
- Townsville City Council. Sustainable housing information kit. [www.townsville.qld.gov.au](http://www.townsville.qld.gov.au)
- Verkerk, R. 1990. Building out termites: an Australian manual for environmentally responsible control. Pluto Press, Sydney.
- Wrigley D. 2012. Making your home sustainable: a guide to retrofitting, rev edn. Scribe, Brunswick, Vic.

## Authors

Chris Reardon, 2013