Buying a home off the plan

Volume home builders offer a vast range of home designs to choose from and simple changes to your chosen design can adapt it to your climate, site and lifestyle. These homes are usually designed and built by the same company so finding the right plan often means that you have also chosen your builder and, sometimes, your site. Thorough research before your decision is therefore of critical importance.

Volume housing typically costs less per square metre than a custom designed and built house. Floor plans vary but they are designed and built to a formula that reduces risk and allows economies of scale for trades, construction systems and materials supply chains. This cost-effective approach can limit your choice of construction system and materials. Careful choice of plan, site and builder can largely overcome these limitations.

*A smaller, well-designed home leaves room in your budget for improved thermal comfort with energy and water efficiency.*

Many project home companies employ skilled designers who maximise thermal comfort and livability aspects within the range defined by their cost control formula. Smaller builders often engage leading designers to prepare a range of designs that suit the climate and market they work in.

Design emphasis is usually on low up-front cost because this is the primary demand of the client base. However, industry leaders are adapting their formula to meet increasing consumer demand for improved environmental performance in this market. A developer and a project home company recently partnered with CSIRO to create Australia’s first zero emissions houses. Several others have since followed.

The 4-bedroom AusZEH demonstration house at Laurimar achieves a net zero carbon footprint with energy efficient design and building practices, an on-site renewable energy supply and an advanced energy monitoring and management system.

Many companies now offer a range of sustainable features including 7 and 8 star thermal performance, advanced glazing, solar hot water and efficient heating/cooling systems. These features are often additional or optional and can add to the base cost of the home.

Some companies use similar designs and construction systems in every climate zone. Assess the product range against the guidelines in *Design for climate* and choose only companies that specialise in climate responsive design appropriate to your region.

Choosing a home on the basis of cost per square metre makes little sense for your comfort and livability — the factors that should guide your choice.

**Could pre-fab work for you?**

Investigate innovative housing solutions at the outset of your research journey. It’s not for everyone but modular, pre-fabricated housing is growing in popularity in many countries. It can reduce cost and waste while making flexible, adaptable housing solutions with very high standards of finish for almost any site.
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Step 1: Preliminary research

Thorough research is the first step in the decision-making process for all types of housing. Add these considerations specific to volume housing as you follow the steps in Preliminary research.

Things generally move very quickly with a new home build and there’s so much to think about — it’s easy to miss critical details. Thorough research and preparation can eliminate the ‘I wish we had …’ syndrome.

Start your research months or even years in advance, take your time, be very thorough, make notes and update them frequently. Construction timeframes vary, but from signing a contract with your chosen builder to moving in can take as little as six months. Agree on and lock in up-front features that can reduce your bills and enhance your lifestyle. You, your children or the next owner will then spend 50 years or more living with your choices.

Many of us choose the style and features of our new home based on homes we’ve previously lived in. This can limit our choices to the familiar or expected — not necessarily what we need. We can get used to living with the shortcomings of our existing home and overlook opportunities to rectify them in our new home. Critical, objective analysis of how your existing home actually meets your lifestyle needs (or not) can make a world of difference to your new home choices.

Analyse your existing home as the starting point of your research. Spend time visiting display homes and visualising how the various designs in builders’ brochures might suit your lifestyle. Check a range of plans against your brief and update it as you discover new ideas and insights at this stage. (see Preliminary research)

Check a range of plans against your brief and update it as you discover new ideas and solutions.

Professional advice from a designer or building sustainability assessor in the early research stages can identify ways to reduce bills and improve comfort and lifestyle. Their advice at critical decision stages of your project can maintain focus on important features.

A final, impartial expert review of plans, specifications and inclusions before signing a contract is the best investment you can make.

Choosing the best home for your family is a demanding and complex journey. Poor decisions can be made by people who tire of the research, selection and decision process. If you get to this stage, seek professional advice.

Step 2: Decide on your budget

Your lending authority will advise what you can afford to borrow and supply details of legal costs, stamp duty and other hidden charges. You may be able to increase your limit by ‘shopping around’ but consider the impact of over-borrowing on your lifestyle and carefully weigh up size versus mortgage repayments.

Every 12m² of floor area in your home (one bedroom) costs about the same as a new car with equivalent increases for luxury or prestige. Plan carefully and spend your square metres wisely.

Plan carefully and spend your square metres wisely.

Prices advertised by builders can indicate probable cost but take care. Make sure you are comparing apples with apples and that your builder’s allowance takes into account the cost of better design features that save money in energy, water and maintenance bills. Additional costs often include:

- **preliminaries** — plans, council approval costs, geotechnical and engineering certification, surveyor’s fees, insurances, bank and legal fees
- **inclusions** — additional features or quality you request that are not covered in the base building costing
- **site allowances** — costs specific to your site that can include: safety fencing, sediment barriers, excavation (slope), drainage (overland stormwater flows) or stronger footings to accommodate reactive foundation material identified by the geotechnical survey
- **variations** — charges for changes you make after signing the contract, which are often very expensive. As the saying goes: ‘Builders make most of their profit from variations’.

Avoid costly omissions and variations through informed, considered choices and decisions.
Step 3: Decide ‘must have’ and ‘preferred’ inclusions

The volume housing process usually requires that you nominate all your needs precisely before signing contracts. Ensure that this early phase of your research is complete and you are decisive — you don’t have the luxury of influence over decisions throughout the process as you do in a custom design and build.

Prioritise features that cost less over the home’s life cycle, save time and work, add to quality of life and reduce environmental impact.

Preliminary research outlines the process of creating a brief. Include all features over which you have choice or influence. Add items and final decision details to your list as you research them. Most builders also list the items they need you to decide on before beginning. Check that your choices are available with each plan you consider and have them costed by builders and sales staff as you progress.

Your list will likely shrink as you approach a final contract price. This is normal. Try to quarantine from budget cuts any items that reduce your bills and environmental footprint — they might add to the initial cost but they will offset your mortgage payments over the life of your home. Consider adding extra rooms later to reduce initial costs. Ask your builder about ‘staged development’ where additions are designed in and council approved up front and built later when required. (see Affordability)

Tips for reducing costs

Build only the spaces you need now. Future needs can be accommodated through alterations or additions, or by moving to a larger home.

Number of bedrooms: A bedroom costs $900–$1500 per square metre. Eliminating a 12m² bedroom can save enough to pay for a solar hot water service, photovoltaic panels and higher thermal performance, which all reduce energy bills and help pay off your mortgage. By the time you sell your home, in a carbon-constrained future with rising energy prices, will they or a spare bedroom add more value?

Number of bathrooms: How much budget can you redirect with fewer or smarter (two-way or three-way) bathrooms instead of a $20,000 ensuite?

Points for developing your brief

- Number of bedrooms
- Number and function of living areas (e.g. open plan or separate)
- Number and configuration of bathroom/s
- Additional functions (e.g. study) — combined functions can save space and money
- Outdoor living areas — well designed, they make your home feel more spacious
- Garage — do you need a second garage, or would more garden space be useful?
- Minimum NatHERS star rating
- Preferred window type and glazing
- Heating and cooling systems (type, star rating, spaces to be heated and cooled) — lock in low operating costs
- Preferred construction system
- Preferred external finishes, materials and colours
- Preferred internal finishes (e.g. paints, floor coverings, doors and joinery) — choose healthy options with low environmental impact
- Electrical fittings (e.g. ceiling fans, efficient lighting, smart switching and metering)
- Plumbing fittings and fixtures (type, star rating)
- Type of kitchen and inclusions (gas or electric oven, gas or induction cooktop, recycling facilities, well ventilated space for fridge/freezer, pantry, drawers)
- Appliances if included (dishwasher, washing machine)
- Schedule of storage and cupboard requirements
- List of all furniture including sizes and preferred layout
- Type of hot water service — consider solar hot water for low life cycle costs
- Features that promote healthy indoor air quality
- Good daylighting
- Photovoltaic panels: now or pre-wired for simplified future installation
- Rainwater tank: size, type, location, connections
- Low water-use garden with reduced lawn area
- Greywater recycling or accessible under-slab drainage to allow future addition
Two-way bathrooms and passageway laundries can save money and space.

**Dual purpose rooms**: Can a guest bedroom be a dual purpose room with potential to generate income as a home office or accommodation for a boarder? These spaces can also be adapted in the future for use by ageing relatives or live-in carers. All these needs are unlikely to arise simultaneously, so why pay to build, heat/cool and maintain more rooms than you need?

**Step 4: Decide your order of approach**

In the volume housing market, you might purchase your land first, then choose or adapt a house plan to suit, or choose your home first, then purchase the land. You could choose a house and land package, or knock down your existing home and rebuild.

Each approach has advantages and disadvantages for achieving the best fit between your home and your site. Choose the approach that best suits your needs and climate.

Your choice could be influenced by:
- land availability and cost in your area
- the range of builders operating in your area or chosen estate
- suitability of available sites in your chosen estate (sometimes builders have already purchased the best ones)
- appropriateness of their design and construction systems for your site and climate
- their willingness to adapt their designs to your needs, site and climate.

Decisions about which approach are often made on the basis of land availability. Some estate developments have strict controls over what is built and by whom. If you choose to buy into such an estate, choosing one with a strong sustainability ethos will deliver the best outcomes.

With decreasing block sizes and land availability in many areas it is often better to choose your land first and then choose a home to suit. From a design perspective, this allows you to consider how each home fits on your block and adapts to maximise advantages or overcome limitations.

In the process of choosing a plan and visualising living in it, people often ‘fall in love with a plan’. This can compromise orientation for solar and breeze access or room layout to suit your block. (see Orientation).

*Some house designs simply won’t work on some blocks, especially smaller blocks. Choose carefully!*

Choosing a house and land package can minimise many of the complications including cost and design changes but it can also limit your choices for the best fit between house and land. This approach is most appropriate when the company offering the package advertises best practice thermal performance (7 stars or better) and environmentally sound design and construction practices.

Companies who specialise in energy efficient homes use skilled designers to design the most cost-effective solution for each block. Making changes to such designs can add cost and reduce energy efficiency.

Find the best fit between your home and your site to improve indoor comfort and reduce your bills.
Step 5: Short-list builders

Builders own the copyright for the plans they offer: in choosing a plan, you are also choosing your builder. It is illegal to steal or copy their plan. Even the smallest detail or concept in a plan can be the intellectual property of the company that created it. Most companies defend their intellectual property aggressively and you could be liable to pay compensation.

Check the credentials of each builder or company before evaluating their plans:
- Establish how long they have been in business and how many homes they build.
- Inspect some finished projects to check for quality and attention to detail.
- Get references and speak to past customers.
- Check licence status and complaints history with the state building regulatory authority.
- Ensure they are experienced in your region, climate and council area.

Step 6 (or 7): Choose a site

Choosing your site before choosing your plan is usually best. Good sites are limited in many areas but house plans come in an enormous variety. (see Choosing a site; Challenging sites; Orientation)

Community

Does the location meet your needs? Is it safe, close to shops, schools and reliable public transport? Does the development have pleasant community spaces like parks, gardens, cycleways, walking paths and playing fields? What are its future prospects?

Slope

Level or minimum slope sites generally allow better outcomes at lower cost because they are suited to slab-on-ground construction with minimal excavation. Slab-on-ground construction provides cost-effective thermal comfort in all but a few climate zones. (see Design for climate)

Orientation

The larger the house, the larger the site required. Many sites are quite small so choosing one with good orientation gives you more options to position your home with a preferred passive solar aspect. This allows good winter solar access and summer passive shading by eaves in most climates. (see Design for climate; Orientation; Shading).

For tropical climates (above the tropic of Capricorn) the priority is year-round shading and orientation for cooling breezes. (see Design for climate; Passive cooling)

Research the best options for orientation on your block — its importance cannot be overstated.

Good orientation is a free or low-cost way to lock in better thermal performance for the lifetime of your home.

Previous use

If the site was previously used for agricultural or industrial purposes, it may have chemical residues that can affect health. The local council or state environment protection agency (EPA) should have the relevant information. If in doubt, have your builder instruct the geotechnical engineer to conduct soil tests.

Even small blocks can have outdoor spaces to relax.

Photo: Mark Ellis

A playground helps to make a pleasant community space.
Existing buildings

Existing homes are increasingly being demolished and replaced with new homes. This process can waste a lot of material resources and embodied energy from homes that can, with thoughtful maintenance or modification, provide comfortable, convenient living for decades. Before demolishing to rebuild, consider renovation. (see Planning home improvements; Renovations and additions)

The current ‘knock-down and rebuild’ fashion rarely delivers the best environmental outcome.

Where the existing structure has clearly reached the end of its lifespan, choose a new design that fits with the existing streetscape and a building company that can demonstrate best practice recycling and reuse practices.

Step 7 (or 6): Choose a design

Builders’ floor plans are a good place to start to compare your ‘must haves’ and ‘wish list’ with what’s on offer in your price range.

Visit many display homes (including some outside your price range) to get a feel for the variety of spaces and qualities a home can offer. Wherever possible, plan your site inspections for a cold winter day in a cool/cold climate (e.g. Canberra, Melbourne) and a hot summer day in a hot climate (e.g. Cairns, Darwin). In temperate climates where heating and cooling are both important (e.g. Sydney, Perth, Adelaide), try to visit in both summer and winter if feasible to see how the homes perform in each seasonal extreme.

Ask sales staff what heating or cooling is being used to keep the display home comfortable before or during your visit.

Size

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 heat, cool, light, clean and furnish — and more costs now and into the future. Good design that doesn’t waste space feels great to live in and holds its value better.

Orientation and size

If you have already chosen your site, check that the home fits on your block with workable orientation. Good orientation is usually free and delivers superior thermal comfort and a higher Nationwide House Energy Rating Scheme (NatHERS) star rating at lower construction and operating costs. Negotiate alternative options with sales staff until you are satisfied you have a workable solution. Have the solution verified by a building sustainability assessor before signing a contract. (see Orientation; Design for climate)

Stars and size

Aiming for the highest NatHERS thermal comfort star rating you can afford (7 or better) improves both thermal comfort and resale value.

The star rating simulates heating and cooling energy use per square metre, so must be taken into account in conjunction with house size. A large house with a 7 star rating may require more heating and cooling energy to stay comfortable than a smaller 5 star house. Keep this in mind when looking at floor plans.

In milder climates, higher thermal comfort star ratings can be achieved at relatively low cost. In more extreme climates, they add cost but repay the investment more rapidly through reduced heating and cooling bills. Trimming a few square metres from house size is a simple way to free budget for improved thermal comfort.
Thermal comfort features

Simple changes can stop heat loss.

**In cold climates**, make sure your lounge and dining areas are away from drafts (often a direct line from window, door or cooler room to a heat source). Simple changes can lower heating costs and increase comfort. Try drawing draft paths on your brochure with a coloured pencil.
- Would moving a window or the heater improve them?
- Which other furniture arrangements might work?
- Is the TV in the right place?
- Can you close off rooms to restrict heat flow or drafts? This is particularly important in two-storey or multi-level homes. Voids and mezzanine balconies add wow factor but they also act as cold air waterfalls in winter while sucking all the heat from lower levels into upper rooms. (see Passive solar heating)

**In hot climates**, make sure cooling breeze paths move across beds, living area seating and dining tables, and draw heat out of every room at night. Night-time sleeping comfort is the most important thermal comfort consideration followed by the places you sit to watch TV and read or rest.

Try drawing likely cross ventilation paths on your brochure. Breezes move best in straight lines.
- Where do your cooling breezes come from?
- Do they come from more than one direction?
- Are the windows 100% openable and positioned to catch and direct breezes (louvre or casement)?
- Could the builder move or enlarge windows, doors or walls to improve ventilation paths?
- Will rising hot air overheat your bedrooms if they’re on the first floor? (see Passive cooling)
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Layout and space
Furnished floor plans help you to visualise how you might live in the available space and remove or better utilise excess space. Is furniture drawn at the correct scale? Furniture shown in some brochures is much smaller than average. Check that yours will fit by obtaining an accurately scaled furnished floor plan and measuring your furniture against it.

Furnished display homes can give you a strong feel for layout. Check that the display home furniture is of similar size and configuration to yours or satisfy yourself that you can achieve an acceptable configuration with your furniture. In open plan homes, consider space for wall hangings.

Be wary of paying extra for fashionable features that could date rapidly. Practical floor plans, thermal comfort and abundant natural light add lasting value.

Storage
Check the storage included against your checklist. Visualise where you might store everything on your checklist in the cupboards shown on the plan. Ask the builder to estimate the cost of providing additional cupboards if needed and suggest where these might be located. If you haven’t completed the schedule of storage requirements (Step 3), look around your current home at the piles that cause clutter and make sure there is a place for them in your new home (or get rid of them through garage sales, charity stores or recycling websites).

Clever storage makes a compact home feel and function like a much larger one.

Lighting and appliances
Low energy lighting is now available at low cost. Choose dimmable LEDs with warm light quality in preference to halogen downlights. The slight additional cost will pay for itself with a few years’ energy savings. (see Lighting)

Choose the highest Energy Efficiency star rating and Water Efficiency Labelling (WELS) rating for all new appliances. (see Appliances; Reducing water demand)

Renewable energy generation
On-site renewable energy generation can reduce your energy bills and carbon emissions but should only be considered when all energy efficiency measures (such as good orientation, shading, ventilation, insulation and appropriate glass areas) have been addressed. The renewable electricity you generate then goes further towards meeting your household energy demand, and is the most cost effective approach.

Installation costs are dropping as uptake becomes more widespread. The electricity you generate will soon reach parity with grid prices as energy costs rise in a carbon constrained future. Ask your builder to include pre-wiring for a rooftop photovoltaic system in the quotation.

Daylighting
Make sure work areas and circulation spaces receive abundant natural light from carefully positioned windows or light tubes. Ask about the daylight rating for your glazing. Some energy efficient glazing can reduce daylight levels. Where this is required for thermal comfort, window placement becomes even more important. (see the section Passive design; Glazing)

Indoor air quality
Chemical emissions from finishes, floor coverings, joinery and furnishings can affect occupant health. Because we are sealing our buildings better to achieve higher thermal performance, eliminating these emissions or reducing their impact with effective ventilation is very important. In cooler climates, consider mechanical ventilation systems that recover heat from exhaust air and use it to heat fresh incoming air in winter.

Low emission (low VOC) paints and finishes are rapidly becoming standard and shouldn’t add to cost. Some painters still prefer older style paints but they should only be used in high exposure, external situations. (see the section Materials; the appendix The healthy home).

Water use
Most builders provide a ‘schedule of allowances’ for taps and plumbing fixtures. Make sure you choose the highest WELS star rating available — especially for showers and toilets. (see Reducing water demand)

Choose a showerhead with the highest WELS rating.
The schedule often includes a lawn or landscaping allowance. Negotiate a reduction in lawn area and use this to buy low water landscaping in mulched beds (see the appendix Landscaping and garden design, Outdoor water use).

The more stars the more water efficient

WATER RATING
A part government and industry program
Sirocco Sahara clothes washer Model SS130
Load capacity 8 kg

Water Consumption
70
Litres per wash using Full load program
When tested in accordance with Standard AS/NZS 4900
For more information and to compare appliances, refer to:
www.waterrating.gov.au

Well mulched native gardens lower water use.

Step 8: Negotiate simple changes to better meet your needs

Many builders will make small changes to a standard plan to achieve better orientation or thermal comfort at no or low cost, such as:

- mirror reversing the plan
- rotating the plan on your site (see Orientation)
- moving or deleting windows (see Passive solar heating; Passive cooling)
- changing the size of a window (see Glazing)
- improving cross ventilation paths by moving doors, windows or walls.

Other changes can add cost but improve the thermal comfort of your home:

- using smart glazing options (see Glazing)
- reducing the size of east and west facing windows or moving them to north walls
- installing adjustable shading devices to east and west (see Shading)
- increasing standard insulation levels (see Insulation)
- adding thermal mass (e.g. internal brick feature wall) (see Thermal mass)
- exposing thermal mass (e.g. tiles or polished concrete instead of carpet).

Note: the ratio of exposed thermal mass and passive solar exposed glass is critical, particularly in cooler climates. (see Thermal mass)

Depending on what’s offered in your base package, you may also need to negotiate upgrades that may add up-front cost but significantly reduce life-cycle costs and add value:

- efficient lighting (e.g. LED) (see Lighting)
- efficient appliances with the highest available star ratings (see Appliances)
- plumbing fixtures with the highest available star ratings (see Reducing water demand)
- a solar hot water system (or other energy efficient option) (see Hot water service)
- efficient heating and cooling systems, if needed (see Heating and cooling)
- materials and finishes with low environmental impact (see the section Materials)
- healthy interiors (see the appendix The healthy home)
- rainwater system with good storage capacity connected to indoor uses (see Rainwater)
- a photovoltaic system (see Renewable energy; Photovoltaic systems).
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Thermal comfort ratings

Good builders can provide accurate estimates of likely additional cost for higher star ratings in your climate. Check their recommendations with a building sustainability assessor if in doubt. (see Design for climate)

In cool and cold climates, increased ratings are often achieved most effectively through double glazing, depending on insulation levels and window size. Double glazing can add substantial cost. Good builders already provide double glazing in these climates so be wary of those who try to talk you out of it. Again, check with a building sustainability assessor if in doubt.

Step 9: Get final quotations

When you have decided on a site and have narrowed your choice to one or two plans, you are ready to seek final quotations with a detailed schedule of finishes that will form the basis of your contract with a builder.

Quotations should include all the contingencies outlined in Step 2, with the budget and any variations or changes negotiated. Ask your builders to nominate any items excluded from their price in writing.

Builders are unable to accurately allow for footing costs without a geotechnical survey and engineering design. If you want to keep your options open until a final price is agreed, arrange and pay for this yourself on advice from your preferred builder. These costs should be deducted from the contract price by the successful builder.

Step 10: Sign contracts

It is essential that you receive legal advice and approval from your lending authority before signing a contract. Attach to the contract copies of:

• the quotation (including all costs)
• council approved plans and specifications (if available)
• surveyor’s report
• geotechnical report and engineering certification details
• schedule of works including a fixed completion date and schedules of allowance for every inclusion or variation.

If council approved plans are unavailable, contracts may be drafted to include clauses that allow you to withdraw if council conditions add to cost or adversely alter expected performance outcomes.

Construction, certification and handover

See The construction process for detailed advice on:

• tender documents and contract
• construction supervision and certification
• commissioning and handover.

Advice about final inspection can be found at: http://housinglocal.com.au

Ask your home building company for an operator’s manual and all guarantees and warranties.

References and additional reading


AusZEH: Australian zero emission house.


Sample plan housing. www.myaurora.com.au


Author

Chris Reardon, 2013