

Contemplating a sustainable new home?

Check out Planet Architecture top 10 tips.

Top tip No.1: Keep the house small to medium

Even if the materials you use have some environmental merit, using too much or too many will destroy that advantage. So keep the footprint (literally and figuratively) small to medium and you will save on building and running costs too. Multi-purpose rooms and living areas that are pleasant enough to work both formally and informally are key strategies to keep the floor area down.

Top tip No. 2: Keep the floor plan shallow

A deep floor plan (8m wide and above), even with a set of windows on either side, will create dark pockets in the middle of the home as natural light doesn't penetrate more than 4m into rooms from typical 7ft high windows. So keep it shallow and it will be light.

Hot tip No. 3: Keep the layout simple

A bright and airy feel can be created in a compact home when the rooms tend to flow into each other rather than be broken into many compartments. A simple floor plan is easy to live and makes better use of each square metre of space while usually requiring fewer building materials.

Hot tip No. 4: Orient to the sun

We will never say it enough: bringing warming sunshine and plenty of natural light inside is the number one boost you can offer yourself and your home. Place living areas on the North side and consider bringing light from the roof if this was not possible for some reason. North facing verandahs are a curse for passive solar homes and are best located on any other side.

Hot tip No. 5: Bump up the insulation

Feel free to exceed minimum legal requirements for insulation in walls and roof by combining a good reflective insulation with a thick layer of fibre-free insulation. Weatherstrip windows and doors. Specify double-glazing for windows.

Hot tip No. 6: Provide thermal mass

Unlike insulation which is light and acts like a doona on your bed, thermal mass is heavy and, when properly insulated, will provide year-round stability to the internal temperature of your home. Prefer a concrete slab floor if the ground is flat enough, or light concrete panel floors for a steep block. Consider reverse brick veneer as a second option. Your home will stay warm long after you stop the heater at night and stay cool long after the sun has risen in summer!

Hot tip No.7: Conserve materials

Nothing beats the character of recycled materials. Specify green concrete, it uses recycled aggregate and a by-product ash to replace some of the cement – the curing of which produces vast amounts of carbon dioxide.

Keep to recycled hardwoods, plantation pine and avoid exotic timbers as most are not sustainably harvested. Fast-growing bamboo is fine for floors but specify the unfinished variety so you can have a non-toxic finish applied on site.

Hot tip No. 8: Protect indoor air quality.

Kitchen joinery is usually made of particle board or MDF which emit formaldehyde, a toxic gas. These boards are now available in the E0 (emission zero) variety, which has near zero emissions. Use natural paints instead of acrylics which coat your walls in plastic, and think of replacing toxic polyurethane finishes with fine linseed oil for timber. There are also natural glues for wood and tiles that can be used as healthy alternatives to conventional PVC-based ones. Avoid ducted heating which moves dust around and irritates the lungs, prefer hydronic panel heating and gas wall heaters.

Hot tip No. 9: Harvest sunlight and rainwater

Plan to make space for round galvanized iron tanks (they have less embodied energy than the plastic ones), and ensure a section of roof faces North to install solar panels with evacuated tubes, the most efficient type to date for water heating. Choose water efficient taps and shower heads. Take advantage of substantial rebates to install photo-voltaic panels to generate power and sell the surplus to the grid. While this type of equipment is initially costly, it will afford you some independence from water and energy companies.

Hot tip No.10: Small appliances are beautiful

Fridges, cooktops, ovens and barbeques now come in super large models which use a lot more energy than small to medium ones (for a comparable energy efficiency). They also contain more embodied energy. So keep an eye on actual energy consumption, not just on the star rating. Simpler and smaller models are best, Australian made is an additional bonus. Use compact-fluoro globes.