

# GOOGONG SUSTAINABLE BUILDING ESSENTIALS

The top ten simple sustainability measures to consider when building at googong

## NO OR LOW COST (\$0-1000)

01

### Choose your block and house design with the sun in mind

*Sunlight provides free heating in winter, but it can also overheat your house in summer. Try to choose the block orientation and house design that maximises incoming sunlight in winter when the sun is low in the northern sky, preferably combined with sufficient thermal mass to capture and retain the daytime warmth. Also, minimise the sunlight entering through windows in summer when the sun is passing overhead by appropriately locating and shading windows.*

02

### Carefully consider your house layout and zone your heating system accordingly

*If possible, design your house plan so that the living area, typically the space used most often, faces north to benefit from sunlight in winter. Physically separate the living area from the rest of the house so that you can heat only that space, and make sure your heating system is zoned so that you can turn it off to parts of the house that you aren't using.*

03

### Be smart about your lighting

*Avoid installing downlights if possible as they punch holes in your ceiling insulation reducing its effectiveness, but if you must, install LED downlights accompanied by fire retardant and insulating downlight covers so that insulation can be installed right up to the covers. Installing a Master Control Switch or individual circuits for task lighting will simplify turning off all your lights and appliances (other than your fridge and any other essential appliance) from a single switch and will make sure you don't forget appliances which otherwise might stay on standby, using up to 10% of the appliance energy consumption.*

04

### Maximise your insulation

*These days it is mostly standard practice to install R4 ceiling insulation and R2 wall insulation in the Capital Region. However, upping your insulation levels to R5 in the ceiling and R2.5 in the walls costs only a little extra and provides greater comfort, along with energy and monetary savings for decades to come!*

05

### Incorporate ventilation into your house design

*Cool evening breezes, which often grace Googong from the east and south-east in summer, can flush the warmth from your house overnight for free. Designing your home with ventilation pathways through the house, and openings (windows/doors) which can be securely left open (such as those fitted with reinforced screens), can help to make your house far more comfortable in summer while using no electricity!*

06

### Externally shade windows from direct sunlight in summer

*Once sunlight has passed through a window, that heat is trapped in your home. Drawing your curtains or blinds will not do much to help, but stopping the sunlight from passing through the window will! Clever design of eaves and roof overhangs can be used to shade windows, as can awnings, roller shutters, shadesails, pergolas and other structures, and even vegetation.*

07

### Apply non-toxic zero VOC finishes (paints, oils, stains), adhesives, grout and termite management

*Many common household products such as finishes, adhesives and even furniture, can emit volatile organic compounds (VOCs) into your home. VOCs can be deleterious to your health, so specifying low-or-no VOC materials for your home is a good idea. Other products such as mold-proof paint can also be useful.*

08

### Waste

*Check with your builder that he has a Waste Management Plan in place for the build and that he has communicated it to his suppliers, subcontractors, labourers and staff. Sorting, separating and storing waste material in dedicated skips on site will keep the site tidy and also make it simpler to recycle the waste generated from the construction. It is also a good idea to allocate space in your garden for a compost system and/or worm farm, while installing separate receptacles in your kitchen for landfill, recycling and compost to make it easier to manage your waste stream.*

## MODERATE COST (\$1000-5000)

09

### Install a solar hot water heater

*If you install a solar hot water heater in Googong, 50-80% of your hot water will be provided by the sun! This means big savings on your utility bill over the life of the solar unit. Evacuated tubes provide the most efficient kind of solar hot water heating, but make sure they aren't shadowed by trees or neighbouring buildings.*

10

### Install as many solar photovoltaic (PV) panels as you can

*If you are home and consuming electricity during the day, with electricity prices continuing to rise it is a great idea to invest in solar PV panels which provide electricity more cheaply from the sun than you can buy it from a utility. If you combine enough panels with a battery storage system, you could potentially run your home off sunlight 24 hours a day! Importantly, panels should only be installed where they won't be shaded by trees or nearby structures.*

For more information relating to any of these tips, refer to the Googong Sustainable Housing fact sheets available at [www.sustainingourtowns.org.au/googong](http://www.sustainingourtowns.org.au/googong)