

B U S H M E A D

SHAPED BY NATURE

**Sustainable
Living Guide**

Sustainable Living Guide

Cedar Woods and [Living Key](#) have partnered to provide this Sustainable Living Guide to point you in the right direction of building a more sustainable home and living a more sustainable life.

We have defined seven categories of sustainability and provided you with a summary of things to think about and actions to take when building a house and enjoying life in a **Cedar Woods** residential estate. Many of these suggestions may also save you money.

In some cases, this Sustainable Living Guide expands on the requirements of **Cedar Woods'** design guidelines which apply when building your new home. When this occurs, the symbol *DG appears and further explanation is provided at the back of this document, under 'Design Guidelines Explanatory Notes'. If you want to know more, we have also provided you with a range of quality on-line resources, at the end of this document.



Energy



Build Smart:

Use Climate responsive, solar passive design principles to keep your home naturally warm in winter and cool in summer ^{*DG}.

Install renewable energy systems, such as solar panels and solar water heaters ^{*DG}.

Install in-home energy saving devices, such as smart metering and automated timers to minimise energy use during hours of peak demand ^{*DG}.

Invest in energy efficient appliances including washing machines, dishwashers, ovens and energy efficient lighting, including LED or Compact Fluorescent Lights (CFLs) ^{*DG}.

Live Smart:

Turn off appliances during the peak electricity demand period of 3.00pm to 9.00pm.

Wash clothes on cold and dry them outdoors instead of using a tumble dryer.

Switch appliances off at the power point to avoid using 'standby power' when not in use.

If not already installed, replace appliances and lighting with energy-efficient models when it's time to buy new.

Use natural ventilation and fans to keep cool and put on a few extra layers of clothes to keep warm.

If you use air conditioners, set your cooling temperature to 25° or 26°C and turn your heat temperature down as much as possible. For every temperature degree you change, your electricity bill will also change by up to 5-10%.

Water



Build Smart:

Plumb rainwater tanks back to the house for toilet flushing, laundry and hot water and, if treated, for showers and drinking.

Reuse greywater from the laundry and showers for irrigating the garden.

Invest in water efficient plumbing fixtures, including showers, toilets and taps and water efficient appliances such as washing machines and dishwashers.

Plant water-wise gardens with native or low water demand plants which require no or very little irrigation.

Install water-wise irrigation, such as 'micro-drip' reticulation fitted with timers and zoned to match watering rates.

Live Smart:

Take shorter showers.

Use the half flush on your toilet.

Wash your car using a bucket instead of a hose.

Follow water restrictions and use a trigger nozzle on your hose.

Run full loads in the dishwasher and, if you wash by hand, use a full sink instead of a running tap. Likewise, when washing clothes ensure the washing machine is full.

Sweep your driveway instead of using a hose.

Fix leaky taps.



Materials

Build Smart:

Think beyond your immediate personal needs when designing your home. A home that can accommodate the needs of a broad range of household types will have a longer lifespan and remain attractive to future buyers in the long-term.

Look into the effect that paints, varnishes and other finishes, as they can emit vapours that may have a negative effect on indoor air quality and your health.

Consider using building materials with low embodied energy, which means they do not require a lot of energy to manufacture, transport or install.

Choose building materials that are natural, renewable, or both, such as sustainable timber.

Explore ways to use materials made from recycled products.

Ask your builder to engage a waste management contractor to minimise construction waste and maximise recycling opportunities.

Live Smart:

Choose furniture made from sustainable timber, renewable materials, and/or recycled products and/or rediscover vintage furniture.

Buy locally made products.

Re-use salvaged materials like timber and brick.

If it works well, keep using it and/or get it serviced.

Store or dispose of hazardous materials such as batteries, paints and oils in a way safe to your health and the environment.

Liveability



Build Smart:

Design and fit-out your home according to Universal 'Safe and Accessible' Design principles, which accommodates the needs of people of all ages and mobility levels. This includes features such as level paths and entries, wide doors and a step-free shower.

Maximise natural light and ventilation to keep you safe and your home comfortable year-round.

Live Smart:

Be active and enjoy the outdoors by walking, cycling and gardening.

Buy locally grown and produced foods and eat healthy.

Clean with products that are chemical-free and sustainably sourced



Nature

Build Smart:

Plant local native species on your property as they require less water

Shade your home and outdoor areas with native and deciduous trees to keep it cooler in summer.

Create a vegetable patch and plant fruit trees.

Work with your neighbours & your local government to plant natives along your street verges & in your local parks, this will help establish ecological corridors & provide shade and cooling.

Live Smart:

Keep pets indoors at night and ensure cats have a bell on their collar if they go outside.

Use environmentally sensitive products for pest and weed control.

Learn more about biodiversity in your local area. Your local government is a good resource.

Build a nesting habitat in trees or pergolas for birds and native fauna.



Movement

Build Smart:

Include easy-to-access bicycle storage in your home design.

Consider the nearby public transport links such as transport hubs, bus stops & train stations.

Live Smart:

Take public transport wherever possible.

Walk or ride your bike when possible.

Service your car regularly and maintain your tyre pressure to maximise fuel efficiency.

Consider whether you really need two cars.

Purchase a hybrid, electric or fuel-efficient car when you do buy a vehicle.



Community

Build Smart:

Support local businesses, shops, schools and service providers.

Enroll your children in local day care & schools - it's a natural way to become involved in your community.

Live Smart:

Work with your neighbours and your local community to establish community amenities, local facilities, sports teams and encourage local culture and arts.

Enroll in a course to learn more about living sustainably.

Participate in a community garden - your local government can provide information.

Use your local parks, recreation centres, sports clubs, cafes and shops.

Get to know your neighbours and help each other out.

Volunteer your time in your local community.

Design Guidelines Explanatory Notes

Energy



Climate Responsive ‘Solar Passive’ Design and Thermal Comfort:

Climate Responsive, or Solar Passive, Design are the design considerations which maximise comfort and liveability, and are energy efficient, thereby reducing the operational costs of your home.

A well designed, high performance solar passive home can naturally maintain internal comfort and greatly reduce your heating and cooling costs.

Designing a building for energy efficiency enables substantial savings to be made on the running costs of heating, cooling and lighting, whilst minimising greenhouse gas emissions and pollution from the use of fossil fuels.



Energy

Key design considerations are:

Orient living areas with large windows to face north to allow winter sun in and shade windows and walls from the summer sun.

Bedrooms are best placed to the south, whilst utility rooms (garage, bathrooms and toilets, laundry) and outdoor living areas (patios and pergolas) to the east and west.

Minimise eastern and western walls and windows to reduce heat gain in the summer.

Maximise natural ventilation throughout your home

Install insulation to roof space, ceilings and walls.

Install thermal rating windows and sliding doors.

Renewable Energy:

Renewable Energy takes advantage of natural systems, most commonly the sun and wind, for the production of electrical energy and water heating.

Install a photovoltaic (PV) system and a solar hot water system (HWS) on the north facing roof to capture the sun's rays year-round.

Incorporating an appropriately sized photovoltaic PV system and solar water heater to match your home and family's needs can go a long way to offsetting much of your energy demand over the year.

A gas boosted solar HWS is more efficient than an electric boosted system, and is cheaper to run.

A heat pump HWS is also a form of renewable energy. Although not as efficient as a solar HWS, they are more efficient and less greenhouse gas intensive than a storage system.

Energy



In-Home Energy Efficiency:

In-home energy use is a significant part of your consumption. Choosing efficient appliances such as fridges dishwashers, televisions and washing machines, and fixtures such as ceiling fans and air- conditioners can significantly reduce your energy bills.

Peak load is the increased demand for electricity mainly during summer, and occurs when most people are at home using multiple electrical appliances – generally between 3pm and 8pm. You can reduce your peak load demand by including smart meters and peak load control devices fitted to fixtures and fittings.

Choose only high(est) rated appliances – fridges, washing machines, dishwashers, ovens, kettles etc.

If installing an air-conditioner, choose an appropriately sized and high(est) energy efficiency rating, and with peak smart ready technology already fitted.

Ensure your fridge space is well ventilated: allow 75mm clearance on each side and a large opening at the top.

Install ceiling fans throughout the living areas and bedrooms – often these are enough to keep cool in summer and are much cheaper to buy and to run.

Install automatic motion sensor lighting to outdoor areas, garages/ carports, pantries, walk in robes and sheds.

Use high-efficiency LED or fluorescent lighting throughout the home.

Water



A large percentage of household water is used outside the home on gardens. Inside the home most water is used for showers and bathing, followed by toilet flushing and laundry washing. By installing alternative water re-use systems and a water-wise garden you can make major savings in your water bills.

Rainwater Harvesting:

When planning to install a rainwater tank, it is important to design this at the earliest design stages to ensure all appropriate plumbing and pipework is installed.

Main considerations are:

Maximise roof surface catchment area.

How the rainwater will be utilised in the home (e.g. toilet-flushing, washing machines, shower).

Location of tank, including availability of space and ease of access.

Greywater Reuse:

Install an approved greywater system that can treat water (greywater treatment system) from the laundry and bathrooms for reuse for flushing toilets, or for diverting water to garden irrigation (greywater diversion system): the most common use is via a diverter system for garden watering.

It is important you check with your state health department about greywater systems.

Water



Waterwise Fixtures and Appliances:

Choose high(est) efficiency water rated appliance - washing machine and dishwasher.

A front loading washing machines uses less water than a top loader.

Install toilets with an integrated hand basin - these are 5 star rated.

Install an in-line cold water diverter to re-use cold water while you are waiting for the hot water.

Waterwise Gardens:

Plant local native or low water demand species.

Minimise grass or turfed areas and, if planted, choose a water-wise lawn.

Waterwise irrigation to the garden should be subsurface, low-flow trickle and set-up with a controlled timer to irrigate during dry summer months and before sunrise.

Irrigate to plant-group based on their water needs (known as hydro-zoning)- if you have a vegetable patch or fruit trees these will require different watering rates than native plants.

Improve soil quality with soil amenders to establish a healthier garden and to use less water.

Mulch all garden beds annually to reduce evaporation.



Liveability

Liveability and Healthy Living is all about how the design and fit-out of your home and property accommodates a range of occupants and their needs, and creates a safe, welcoming and productive environment.

Australia, and much of the world, has an aging population: more people are approaching retirement age, and many of those have some limitations in movement and mobility.

Universal ‘Safe and Accessible’ Design:

A fundamental consideration for universal design is the accessibility and movement into and throughout the home for people with limited mobility, especially those in wheelchairs.

Key design elements include:

Level pathway and level door-way threshold to the front, or at least via the garage/ carport.

Accessible, well illuminated car park and pathway.

Wide doorways throughout the home, including to the bathroom and toilet. Doors should have a minimum opening of 850mm and passages a minimum width of 1 metre.

Bathroom with semi-recessed hand basin and hobless -step-free- showers, and with hand-rails included.

Toilet is on the ground level, and have large enough internal dimensions for a wheelchair (2m x 1.6m), and are fitted with a hand rail.



Liveability

Indoor-Outdoor Living:

Most of Australia has an ideal climate throughout much of the year to be outdoors, and increasingly homes are being built to allow for more indoor-outdoor connectivity.

We recommend the following:

Create direct and easy access to your private out spaces – follow the design recommendation under the climate responsive ‘solar passive’ design section.

Plant a vegetable and herb garden close to your kitchen area. Raised garden beds are best if you have limited mobility.

Plant some fruit trees – such as lemons, apples and olives. These provide food and also shade.

Plant deciduous variety trees on your north side as they provide shade in summer but allow the winter sun into your home in winter.



Pets

Main considerations are:

The owners and the City of Swan's obligation under the Cat Act 2012 e.g. limits on cat ownership numbers and being lock indoors at night

The owners and the City of Swan's obligations under the Dog Act 1976

The impacts of cats on the natural environment

General information on the local wildlife in the area, including what to do when encountering local wildlife, not to feed wild animals, the use of urban poisons and its effects on wildlife etc.

Fencing the building envelope to control pets

Control methods for domestic cats including:
- keeping cats inside overnight

Sterilising pets

Keeping dogs on a leash when walking; and

Restricting walking to designated paths

More Information

There are numerous on-line resources that provide you with general and technical information on building a sustainable home and living more sustainably. We can't list them all so here are a few of the best and most reputable we know of, which also provide many links to other sites.

Your Home - is a suite of consumer and technical guide materials developed to encourage the design, construction or renovation of homes to be comfortable, healthy and more environmentally sustainable.

www.yourhome.gov.au

Livable Housing Design Guidelines - information about how to make homes easier and safer to use for all occupants including people with a disability, injuries, the aged and families with young children.

<http://www.livablehousingaustralia.org.au>

Living Smart - is a multi-week course which provides participants with the practical knowledge and skills to take action in their own homes and around the community, designed to increase awareness of sustainability, create positive change and support and strengthen community relationships.

www.livingsmart.org.au



Enhancing prosperity and quality of living



About Living Key

Living Key is a suite of rating tools, services and resources for industry and consumers to assess and certify the liveability and sustainability of properties.

Its core objective is to address the market need for an easy to understand 'rating assessment' of the key liveability and sustainability features and attributes of new or existing properties.

Living Key Categories and Descriptions



ENERGY

Design features and fixtures of the property that optimise good design and conserve energy



WATER

Design features of the garden, and fixtures and appliances that conserve and re-use water



LIVEABILITY

Design features, materials and finishes, and location, which enhance human and environmental health



MATERIALS

Well located and long life buildings with low energy content and are sustainable sources



NATURE

Type, amount and diversity of vegetation on the lot, on street verges and in open space, and proximity to bushland



MOVEMENT

Proximity of the property to public transport, walking and cycling paths, and bicycle storage



COMMUNITY

Proximity of the property to local amenities and services such as shops, schools, day care, community centres and parks



Summary average of ALL assessment categories to indicate the average benefits and potential of the property

