









Your Home	Energy					Water inside the home	The Garden	Building Materials	Transport	Waste	Chemicals
	Hot water	Staying warm and keeping cool	Appliances	Power supply	Lighting						
<b>The Brown Family</b> The Browns could learn from the Smiths family to be more sustainable. 	The Browns have a standard electric storage unit.  They could insulate all the hot water service pipes and reduce the water temperature to 60°C.	Their large ducted reverse cycle air conditioning system costs a lot to run. Most of the rooms in the house are heated or cooled regardless of whether anyone is using them or not.  Unshaded East and West facing windows let the hot summer sun in.  They could plant trees to provide shade in summer or install a sailshade.	The Browns have fairly typical appliances, including a large screen television, clothes dryer, two fridges and a freezer.	The Browns rely heavily on electricity, much of which is provided by large power stations.  Emissions of carbon dioxide from this process are the major contributor to the enhanced greenhouse effect.	Halogen downlights are used throughout the home – these are a very inefficient lighting option.	The Browns have a single flush toilet which uses 11 litres of water per flush.  They also have a top loading washing machine and a dishwasher.	The Brown's use 90% of their garden water on the lawn. Very little habitat is available for native species. Their automatic system waters the garden regardless of whether it has rained or not.  Their swimming pool is a large consumer of energy, water and chemicals. They could get a pool cover.  Stormwater from the roof of the house and hard paved areas picks up leaves and rubbish and flows untreated to the sea.	The Brown's home required a large amount of energy and materials to build.  Find out more about alternative building materials at <a href="http://www.ecospecifier.org">www.ecospecifier.org</a>	A large proportion of the Brown's home is devoted to cars rather than people. The Brown's use their large 4WD for everything – including small trips to the corner shop.	The Browns generate large amounts of waste every week.  They do recycle, but their bins are always full or overflowing.	The Brown's house is full of chemicals. These are found in air fresheners, paints and solvents, new plasticised products, cleaning products, etc.  These chemicals are bad for the health of the family and the environment.
<b>The Smith Family</b> The Smiths have made many simple improvements. 	The Smiths have upgraded to a 5 star instantaneous gas hot water system.	Ducted evaporative cooling and a fixed gas heater provide a comfortable home environment. Both units are quite efficient and in winter only the living space is heated.  They have also installed external shading on west and east facing windows to keep out the summer sun.  The ceiling and walls have been well insulated, draughts have been sealed up and thick curtains with pelmets reduce heat loss and gain. This means less heating and cooling are required.	The Smiths have one fridge and they dry their clothes on the line.  In addition, unused equipment is turned off at the switch to prevent standby losses.	The Smiths are purchasing 100% Greenpower – this means that all their electricity is sourced from renewable energy generators.	Standard globes have been replaced with compact fluorescent lamps that use 75% less energy and last at least 6 times as long.	The Smiths also have a single flush toilet. However, they have installed a cistern weight to reduce water use.  They have installed a low-flow AAA-rated showerhead and take quick showers.  They make sure they have a full load before running their dishwasher or washing machine.	The Smiths have a native lawn which requires little watering. They water their garden manually and use rainwater from their tank when it is available.  They minimise the use of garden fertilisers and chemicals.  They avoid contaminating stormwater by washing their car on the lawn and use a broom to clean driveways and footpaths instead of hosing leaves and animal faeces into the gutter.	By choosing to make simple changes to their existing home rather than building a new home, the Smith's have made a significant contribution to the environment.  Find out more about transport at <a href="http://www.greenhouse.gov.au/transport">www.greenhouse.gov.au/transport</a> or <a href="http://www.greenvehicleguide.gov.au">www.greenvehicleguide.gov.au</a>	The Smiths limit the amount of air travel they do. They know that emissions from a plane are equivalent to all the passengers driving their own car.  Find out more about transport at <a href="http://www.greenhouse.gov.au/transport">www.greenhouse.gov.au/transport</a> or <a href="http://www.greenvehicleguide.gov.au">www.greenvehicleguide.gov.au</a>	The Smiths use a compost bin for all their kitchen and garden scraps, including leaves.  Find out more about specific waste types at <a href="http://www.zerowaste.sa.gov.au">www.zerowaste.sa.gov.au</a>	The Smiths avoid aerosols and personal hygiene products made from chemicals.  They buy cleaning products that are healthy for them and reduce their impact on the environment.
<b>The Jones Family</b> The Jones' home includes many of the good features of the Green's home. 	The Jones' have installed an instantaneous gas boosted solar hot water system.	The renovation has been so successful that almost no heating and cooling are required.  Ceiling fans have been installed to provide summer cooling and a small heater is used occasionally to provide all heating requirements.  The north facing windows capture winter sun for warmth and eaves minimise summer sun exposure. 	The Jones' have purchased appliances with high star ratings. Their new 4-star fridge is very efficient and is CFC free.  <a href="http://www.energyrating.gov.au">www.energyrating.gov.au</a>	Find out more about Greenpower at <a href="http://www.greenpower.com.au">www.greenpower.com.au</a>	During the day the house is mainly lit naturally. At night high-efficiency fluorescent lamps are used.	The Jones' installed an ultra-low flush toilet which uses 4.5/3 litres for a full/half flush. This costs no more than a standard unit.  They have installed a front-loading washing machine and have no dishwasher.  They run their home completely from rainwater for six months each year, with only a 5,000 litre tank.	The Jones' grow some of their own fruit and vegetables – this is a significant contribution to the environment and nothing beats a home grown tomato. They mulch the garden well to minimise water use.  They have designed their garden so that plants that need water are grouped together. Surface runoff is minimised.  They have no lawn and chose drought tolerant native species, which also drop fewer leaves into the stormwater system.	By renovating without making their house larger the Jones' avoided excessive material use and saved money as well.  Find out more about building materials at <a href="http://www.yourhome.gov.au">www.yourhome.gov.au</a>	The Jones' try to use their small, fuel-efficient car as little as possible. When they do use it they try to do a number of things in each trip. 	When the Jones' go shopping they take their own carry bags and containers. They try to reuse items or purchase recycled materials and have a No Junk Mail sign on the letterbox.  These efforts mean that the rubbish bin doesn't get put out very often.	Find out more about chemicals at <a href="http://www.yourhome.gov.au">www.yourhome.gov.au</a>  <a href="http://www.nwf.org/getgreen/GreenCleaning.cfm">www.nwf.org/getgreen/GreenCleaning.cfm</a>
<b>The Green Family</b> The Green's home will have all the good features of the Smith and Jones' homes. 	Do the Home Energy Self-Audit or find out more about saving energy at <a href="http://www.energy.sa.gov.au">www.energy.sa.gov.au</a>	The Green's home will have large windows to the North – allowing winter sun into the home, and eaves and verandahs to exclude summer sun.  Double glazed windows with a low-e coating will be installed for maximum thermal performance. Their house will not require any heating or cooling.  The home is oriented to the North and there are minimal East and West facing windows.	The Greens have purchased entertainment and home office equipment showing the energy star logo.  Find out more about appliances at <a href="http://www.energystar.gov.au">www.energystar.gov.au</a>	The Green's electricity needs will be fully supplied by photovoltaic cells and wind-power – they will generate more energy than they use. 	The Green's will install a composting toilet that uses no water for flushing.  Do the WaterSmart Home Audit or check out the rainwater factsheet at <a href="http://www.watercare.net">www.watercare.net</a>  Check out the water efficiency of appliances at <a href="http://www.wsaa.asn.au">www.wsaa.asn.au</a>  Find out more about water wise gardening at <a href="http://www.watercare.sa.gov.au">www.watercare.sa.gov.au</a> 	The Greens have retained existing trees and vegetation, rather than clearing the whole block. Their home has been designed to take advantage of the shade and habitat that these trees provide.  They will install a greywater system to provide sub-surface irrigation.  Find out more about water wise gardening at <a href="http://www.watercare.sa.gov.au">www.watercare.sa.gov.au</a>	The Greens are re-using materials from their demolished home. They are choosing materials that will give the building a long life, make their home comfortable and efficient and have the least environmental impact during the manufacture and transportation phase.  Find out more at <a href="http://www.yourhome.gov.au">www.yourhome.gov.au</a>	The Green's home does not include a garage.  They enjoy cycling and also live in an area well serviced by public transport, shops and schools.  Find out more at <a href="http://www.yourhome.gov.au">www.yourhome.gov.au</a>	Building waste from the Green's site is sorted into separate bins to allow for recycling and reuse.  Erosion and sediment control is being practised on the building site. This stops pollutants entering the stormwater system.  The design of the building makes use of standard material sizes to reduce waste.	Most new homes emit large quantities of indoor air pollutants from plastics, paint and floor coverings.  The Greens have carefully chosen materials that will not compromise their health. By recycling and reusing materials, they have avoided many problems associated with new materials.	

The comprehensive resource at [www.yourhome.gov.au](http://www.yourhome.gov.au) provides more detail on all aspects of sustainable living and home design. For updated access to sustainable home information, check the City of Burnside website at [www.burnside.sa.gov.au](http://www.burnside.sa.gov.au)

# sustainable YOUR HOME WHERE TO START?

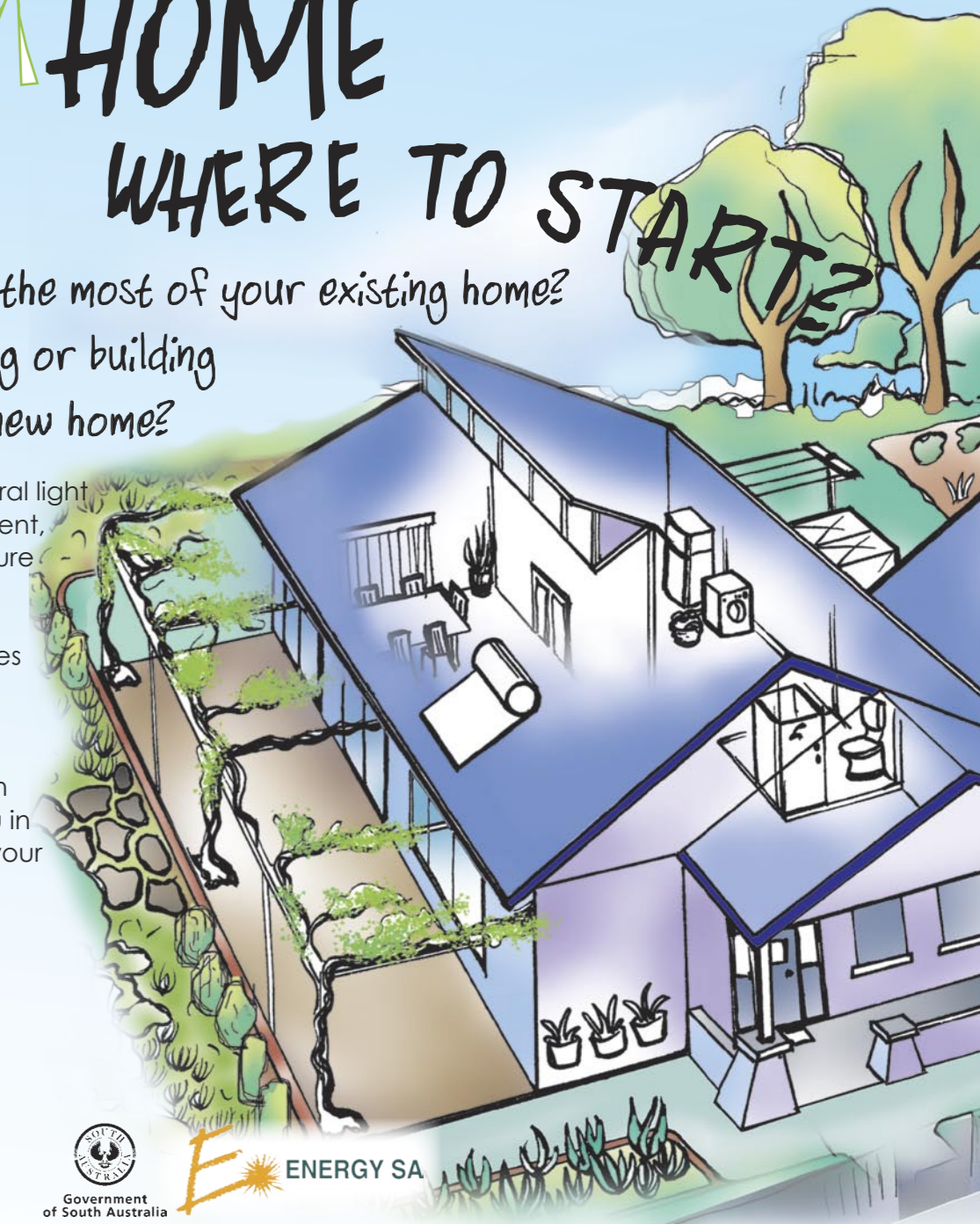
Interested in making the most of your existing home?  
Thinking of renovating or building a new home?

With lower running costs, natural light and a healthy living environment, a sustainable home is a pleasure to live in.

Living sustainably also minimises our impact on the natural environment.

This guide will provide you with useful information to assist you in taking the first steps to make your home more sustainable.

It also provides links to more comprehensive resources.



## The Brown Family

... live in a typical home – their only contribution towards sustainable living is recycling. They are frustrated with the increasing costs of running their home.

## The Smith Family

... also live in a typical home, but they have made many simple changes to reduce their environmental impacts and the running costs of their home.

## The Jones Family

... decided to renovate their home to improve the quality of their living spaces. They have retained the same size of the original house and incorporated many aspects of sustainable design.

## The Green Family

... had to demolish their existing home as it was structurally unsound. They are in the process of building a new home using recycled materials from the original home and other sustainable building materials.

# What makes a sustainable home?

Making your home more sustainable minimises your impact on the environment by reducing energy consumption, water use and waste generation. It will also improve the comfort of your home and the quality of the air you breathe. Using less resources will also save you money...so what are you waiting for?

Check out the features of the four homes displayed. Can you see the differences between them? How does your home compare?

Some of the features of the homes are described below. **Over the page is a much more detailed table of features in each house and opportunities for improvement.**

- A** 35% of average household energy use is associated with hot water systems. Solar and gas instantaneous systems reduce energy use and greenhouse emissions.
- B** Shading during summer, yet letting in light and warmth during winter.
- C** Large North facing windows and doors allow the winter sun to heat your home. Ducted reverse cycle air conditioners are expensive to run. Heating and cooling an average home costs around \$500 each year.
- D** Insulation is a must in all South Australian homes. Whirly-gigs vent roof spaces.
- E** Using the sun to dry your clothes makes sense.
- F** A second fridge or freezer can cost over \$100 per year to run. New fridges are generally much more efficient than old units.
- G** Old style toilet cisterns use 11 litres of water for each flush while new units can use as little as 4.5/3 litres per full/half flush.
- H** Front loading washing machines save around 100 litres of water per load. They are also gentler on your clothes, more energy efficient and require less detergent.
- I** The shower is one of the easiest and most cost effective ways to save water and energy. An inefficient showerhead uses 15-20 litres per minute, while an efficient one will use 9 litres per minute, saving 20,000 litres of water and \$50 of energy a year.

- J** Rainwater can be plumbed into your home. A water efficient home can run on rainwater alone for 6 months of the year with less than 5,000 litres of tank capacity.
- K** Native gardens can be very attractive and require little watering. They provide a habitat for native animals and birds.
- L** Growing your own fruit and vegetables is not only satisfying; it reduces the amount of chemicals, fuel and packaging used in commercial production.
- M** Typical water use in the garden and outdoors is 603 litres per day! Mulching can reduce irrigation water use by as much as 70%.
- N** Swimming pools are big users of energy, water and chemicals.
- O** The choice of long-lived building materials with low environmental production and transportation costs can reduce the impact of your renovation or new building.
- P** A compost bin or worm farm can significantly reduce the amount of rubbish you send to landfill. Compost and worm castings are excellent for the garden.
- Q** Refuse, reduce, reuse, recycle – the less you bring home the less you will end up throwing away.
- R** Sorting building wastes on-site allows for recycling and reuse.
- S** A truly sustainable household does not own a car – walking, cycling and public transport are preferable. A large 4WD uses at least twice as much fuel as a small, fuel-efficient car.
- T** Off gassing from plastics, solvents and synthetic chemicals can harm your health.
- U** Indoor plants can improve air quality and create a pleasant living environment.

