



NOTES:

Home Audit

Conducting a home audit enables you to find out how much energy and water you and your family use in your home. Once you know how much water and energy you use you can start to make some simple changes that will reduce your water and energy consumption. This will save you and your family money and reduce your greenhouse gas emissions.

Around a quarter of Australia's greenhouse gas emissions (CO₂e) come directly from households – every time you switch an appliance on, heat water, run a tap or drive a car you are contributing to climate change.

Living Smart can show you how to make simple changes that make a big difference. You can perform this simple home audit by yourself.

WHAT YOU WILL NEED TO DO THE HOME AUDIT (AND MAKE SOME SIMPLE CHANGES ALONG THE WAY)

- this home audit guide and a pen;
- screw driver (for accessing some controls - never open up an electrical device);
- cloth (for removing old globes);
- ladder (for reaching light sockets);
- bucket (for measuring tap and shower head water flow);
- thermometer (for checking water and fridge/freezer temperatures. Get a good quality fridge/freezer thermometer available from kitchen shops for around \$8.00 – it will pay for itself many times over!).

Based on material developed for the "Energy Friends" by the Government of South Australia. For more information go to http://www.infrastructure.sa.gov.au/energy/government_programs/energy_friends.htm. The Living Smart brand has been developed by The Meeting Place Community Centre, the City of Fremantle, Murdoch University and Southern Metropolitan Regional Council to support a suite of programs developing capacity in community sustainability. Published by the Department for Planning and Infrastructure, Perth, Western Australia. February 2008. The information provided in this brochure is provided in good faith. However the accuracy or appropriateness of the information is not guaranteed.

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WARNING

- NEVER TOUCH EXPOSED WIRES – CALL AN ELECTRICIAN IMMEDIATELY.
- TAKE EXTREME CARE WHEN HANDLING HOT WATER AND WATER HEATER PIPES AS THEY CAN BURN.
- TAKE CARE WHEN USING LADDERS TO ACCESS LIGHT FITTINGS.

HOW TO COMPLETE THE HOME AUDIT

1. Work your way through each of the rooms in your house.
2. Ask yourself each of the “How do you use energy” and “How do you use water” questions. Circle the response that best matches your current energy and water use.
3. Each response has a star rating. Note the number of stars that corresponds to your answer and make a note of it in the “total” row in the table.
4. Where you scored less than the maximum number of stars, read through the energy and water star actions to identify the actions you can take.
5. Add up the individual scores to determine your overall score.
6. When you have completed the Home Audit, use the “Actions” list to find out simple actions you can take to reduce your energy and water use.
7. Now you have identified areas in your home where you can take action to save energy - make the change! You can estimate the savings that making these simple changes will have on your bills and greenhouse gas emissions – most households can save around \$400 and 3,000kg of greenhouse gas emissions.

If your local council is participating in the Living Smart program you may be able to borrow a “powermate” from your local library. This handy device measures the cost of running everyday appliances like fridges and computers. Simply borrow the powermate and follow the instructions.

WHAT ELSE DO I NEED TO KNOW?

Checking your hot water temperature

If you have an older hot water system, the thermostat may be numbered but not shown in degrees of water temperature. To determine the actual temperature of water from this type of water heater:

1. Place a thermometer in a small sink and part fill it with hot water.
2. If the water is above 60°C adjust the thermostat down.
3. Check the water temperature again with a fresh flow of hot water to ensure that the water is at or just above 60°C for storage heaters and 50°C for instantaneous heaters.

Measuring showerhead and tap flow rates

To measure the flow rate of taps and showerheads:

1. Place a ten litre bucket under the shower head and have the timer at the ready.
2. Start the timer as you turn the shower on full for 30 seconds, directing the water into the bucket.
3. Turn off tap and timer.
4. Multiply the number of litres by two to get the number of litres per minute (a Waterwise showerhead will use 9 litres per minute).

Measuring fridge and freezer temperatures

Get your thermometer and leave it in your shut fridge for at least an hour without opening the door. By leaving the fridge closed you will be measuring the normal working temperature and not the ‘spike’ caused by opening the door (If the fridge is below 3°C, then turn the setting to run ‘warmer’, if it is above 4°C then adjust to ‘cooler’).

Repeat the exercise for the freezer unit (aiming for -15°C to -18°C).

Measuring living area temperatures

If your heater/cooler has a built in thermometer use this as a guide. It is always a good idea to double check with your own thermometer.

ENERGY USE IN YOUR LOUNGE ROOM

HOW DO YOU USE ENERGY?	YOUR ENERGY USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS	
	HIGH	MODERATE	ENERGY EFFICIENT		CO ₂ e	\$
DO YOU HAVE SHADES AND PELMETS INSTALLED OVER YOUR LIVING ROOM WINDOWS?	None	Good curtains ★	Good curtains and pelmets ★★	<ul style="list-style-type: none"> Install pelmets (covers over the top of curtains) to stop draughts caused by airflow between curtains and windows. Install heavy lined curtains to keep heat in during winter and out during summer. 	60kg	\$9
WHAT TYPES OF LIGHTS DO YOU HAVE?	Incandescent or halogen lights	Some fluorescents ★	Mainly fluorescents ★	<ul style="list-style-type: none"> Replace 10 incandescent globes with compact fluorescent globes. Replace 5 × 50watt halogens with 20watt halogens. 	750kg 205kg	\$112 \$30
DO YOU REGULARLY TURN OFF LIGHTS?	Lights left on all the time	Lights turned off occasionally ★	Lights turned off when no one in the room/area ★	<ul style="list-style-type: none"> Turn lights off when you leave the room (it is ok to turn compact fluorescents off when you leave a room - its a myth that this is a waste of energy). 	*	*
DO YOU JUST HEAT/COOL THE LOUNGE ROOM, OR THE WHOLE HOUSE?	Whole house	All living spaces ★	Only the rooms people are in ★★	<ul style="list-style-type: none"> Only heat/cool the room people are using. Close doors between the heated/cooled room and the rest of the house. At night only heat /cool bedrooms. 	*	*
WHAT DO YOU USE TO HEAT YOUR LOUNGE ROOM?	Ducted whole of house or many electric heaters.	Single room heater ★	Warm clothes and occasional heater ★★	<ul style="list-style-type: none"> Wear warm clothes. Only use the heater when necessary. 	*	*
WHAT DO YOU USE TO COOL YOUR LOUNGE ROOM IN SUMMER?	Ducted whole of house	Single room air conditioner ★★	Ceiling fans and night breezes ★★	<ul style="list-style-type: none"> Install ceiling fans (instead of using air con). Open doors/windows to let in breeze. Use evaporative air conditioners as they are more efficient than refrigerative air conditioners. 	380kg	\$57
WHAT IS YOUR LOUNGE ROOM TEMPERATURE IN WINTER?	24°C or more	22°C ★	20°C or less ★	<ul style="list-style-type: none"> Set your thermostat to 20°C or less (each 1°C can save). 	17kg	\$2
WHAT IS YOUR LOUNGE ROOM TEMPERATURE IN SUMMER?	21°C or less	23°C ★	26°C or more ★	<ul style="list-style-type: none"> set your thermostat to 26°C or higher. 	33kg	\$5
HOW DO YOU TURN OFF YOUR APPLIANCES?	Turn on and off with a remote	Turn off at the wall sometimes ★	Turn off at the wall most of the time ★	<ul style="list-style-type: none"> Turn off all appliances except your microwave and fridge at the wall. 	640kg	\$96
TOTAL	0		= /12 stars			

*Actions with smaller savings are not quantified individually, but making these small changes still adds up to big savings.

WATER AND ENERGY USE IN YOUR KITCHEN

HOW DO YOU USE ENERGY?	YOUR ENERGY USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS	
	HIGH	MODERATE	ENERGY EFFICIENT		CO ₂ e	\$
DO YOU HAVE A SECOND FRIDGE OR FREEZER?	Always running	Only on when needed ★★	No second fridge or freezer ★★★★	<ul style="list-style-type: none"> Get rid of your second fridge (or freezer) or use it only when necessary. 	270kg	\$41
WHERE IS YOUR FRIDGE LOCATED?	In a hot spot	A spot that sometimes gets warm ★	In a cool spot ★★	<ul style="list-style-type: none"> Move your fridge to a cool location. 	*	*
WHAT TEMPERATURE IS YOUR FRIDGE SET AT?	Running at less than 3°C	Frosts up occasionally ↓	Fridge does not frost up ★	<ul style="list-style-type: none"> Turn your fridge down to 3°C-5°C (the recommended operating temperature for a fridge). 	25kg	\$4
IS YOUR FRIDGE WELL VENTILATED?	No air gaps on side and tops	Some air gaps ↓	Plenty of space around fridge ★	<ul style="list-style-type: none"> Ensure that the coils (at the back of the fridge) are free from dust and that there is enough room for air circulation. 	*	*
WHAT ARE YOUR MAIN FORMS OF COOKING?	Electric stove and oven	Occasional microwave ↓	Microwave and gas cooker ★	<ul style="list-style-type: none"> Try to use a microwave wherever possible. If purchasing a new stove/oven purchase a gas stove and oven as they are the most environmentally friendly. Ensure the oven is well sealed. Place lids on saucepans when cooking. 	*	*

HOW DO YOU USE WATER?	YOUR WATER USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS		
	HIGH WATER USE	MODERATE WATER USE	WATERWISE		CO ₂ e	\$	Litres
HOW DO YOU WASH YOUR DISHES?	In a dishwasher that is not full	In a dishwasher with a full load ★	Full load of washing by hand ★★	<ul style="list-style-type: none"> If you use a dishwasher, ensure that it is full when you run it and use the economy cycle if possible. Clean the filter regularly. Always look for 3-Star rated waterwise appliances when replacing old appliances. 	*	*	5000
TOTAL	0		= /10				

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WATER AND ENERGY USE IN YOUR LAUNDRY

HOW DO YOU USE ENERGY?	YOUR ENERGY USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS	
	HIGH ENERGY USE	MODERATE ENERGY USE	ENERGY EFFICIENT		CO ₂ e	\$
WHAT TEMPERATURE DO YOU USE FOR CLOTHES WASHING?	Always hot or warm	Sometimes warm ★	Always cold ★★	<ul style="list-style-type: none"> Use cold water when washing as most of the energy used for washing clothes goes into heating the water. If you need a new washing machine, check the energy star rating, the more stars the better. Choose the right size washing machine for your household. Use the recommended amount of washing detergent (manufacturing washing detergent is energy intensive and generates large amounts of greenhouse gas). 	128kg	\$19
HOW DO YOU DRY YOUR CLOTHES?	Always use the dryer	Sometimes use the dryer ★	Always dry on a clothes line/clothes airer ★★	<ul style="list-style-type: none"> Always try to use a clothes line /airer to dry your laundry. If you need a new clothes dryer, check the energy star rating, the more stars the better. 	300kg	\$45

HOW DO YOU USE WATER?	YOUR WATER USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS		
	HIGH WATER USE	MODERATE WATER USE	WATERWISE		CO ₂ e	\$	Litres
WHAT TYPE OF WASHING MACHINE DO YOU USE?	Standard top loader	Top loader with suds saver ★★	Front loader or 3-Star waterwise top loader ★★★★	<ul style="list-style-type: none"> Front loading washing machines generally use 1/3 less water than top loaders. 	30kg	\$25	25,000
HOW FULL ARE YOUR LOADS OF WASHING?	Mainly small loads	Mainly large loads but some small ★	Usually full loads ★★	<ul style="list-style-type: none"> Only put your washing on when you have a full load. Adjust the load setting on your washing machine if you do not have a full load. 	*	*	*
TOTAL	0		= /9				

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WATER AND ENERGY USE IN YOUR BATHROOM

HOW DO YOU USE WATER?	YOUR WATER USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS		
	HIGH WATER USE	MODERATE WATER USE	WATERWISE		CO ₂ e	\$	Water (in litres per year)
DO YOU HAVE A LOW FLOW SHOWERHEAD?	No	Don't know	Yes ★★★★★	<ul style="list-style-type: none"> Install a 3-Star Waterwise showerhead, they give a great shower and use less water (Note: They may not be suitable for some instantaneous hot water systems). 	273kg	\$46	8,800
WHAT TYPE OF TOILET DO YOU HAVE?	Single flush	9/4.5 litre dual flush ★★	At least a 6/3 litre dual flush or fitted with a water saving device ★★★★★	<ul style="list-style-type: none"> Single flush and even some dual flush systems use large amounts of water. Dramatically reduce water use by installing dual flush systems. 	23kg	\$15	19,700
HOW DO YOU SHOWER AND BATHE?	Long showers & deep baths	Showers only or shallow bath ★	Short showers (3 min or less) and no baths ★★★★	<ul style="list-style-type: none"> A bath can use well over 100 litres of water. A short shower can use less than 30 litres of water. Use a shower timer to have showers of around 3 minutes. 	743kg	\$130	35,000
ARE FLOW REGULATORS FITTED TO YOUR TAPS?	No	Unsure	Yes ★★	<ul style="list-style-type: none"> Find out if your taps are fitted with flow regulators. If not, install them. 	73kg	\$50	62,000
ARE THERE ANY LEAKING TAPS?	Yes	Unsure	No ★★	<ul style="list-style-type: none"> Find out if any taps or cisterns are leaking and fix them. 	3kg	\$2	2,400
TOTAL	0		= /15				

WATER AND ENERGY USE OUTSIDE YOUR HOME

HOW DO YOU USE ENERGY?	YOUR ENERGY USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS	
	HIGH ENERGY USE	MODERATE ENERGY USE	ENERGY EFFICIENT		CO ₂ e	\$
IS YOUR HOME INSULATED?	No	Ceiling ★★	Ceiling and walls ★★★★	<ul style="list-style-type: none"> Install roof and wall insulation. 	250kg	\$40
WHAT TYPE OF WATER HEATER DO YOU HAVE?	Electric storage	Gas ★	Solar, 5-Star gas or heat pump ★★★★★	<ul style="list-style-type: none"> Install an energy efficient hot water system, such as a solar hot water system, when replacing your old unit. 	2,457kg	\$365
WHAT TEMPERATURE IS YOUR HOT WATER HEATER SET AT?	65°C or more	62°C ★	60°C ★★	<ul style="list-style-type: none"> Reduce the temperature setting on your water heater from 80°C to 60°C for storage water heaters or between 40°C – 50°C for instantaneous systems. 	220kg	\$84
IS THERE INSULATION (LAGGING) ON YOUR WATER HEATER PIPES?	None	Some ↓	Lagging on cold and hot pipes ★	<ul style="list-style-type: none"> Insulate outdoor and indoor water pipes (from your water heater) with lagging. 	*	*
DO YOU HAVE SHADING ON EAST/WEST FACING WINDOWS?	No	Some ↓	Shade summer sun only ★★	<ul style="list-style-type: none"> Install shade/plant vegetation which shades the window from summer sun whilst letting winter sun in. 	480kg	\$70
ARE THERE DRAFTS FROM EXTERNAL DOORS OR WINDOWS?	Large gaps	Some gaps ↓	No gaps ★★	<ul style="list-style-type: none"> Use door seals or draught excluders to stop air flow between the outside and inside of your home. (NOTE: rooms with unflued gas heaters must have adequate ventilation). 	*	*
DO YOU REGULARLY TURN OFF OUTSIDE LIGHTS?	Lights left on all the time	Lights turned off occasionally ↓	Lights turned off when no one in the room/area ★	<ul style="list-style-type: none"> Install a sensor to reduce the length of time outside lights are left on. 	*	*
DO YOU HAVE A POOL?	Heated and filter always turned on	Solar, or no heating, filter runs for less than 6 hours a day and regularly cleaned ↓	No pool ★★★★	<ul style="list-style-type: none"> Purchase and use a pool cover. Install a solar pool heater. Reduce pool pump time to 6hrs per day. Keep filter clean and backwash filter when necessary to improve efficiency. 	1,025kg	\$152
DO YOU HAVE A RAINWATER TANK?	No	Yes (1,000 litres) ↓	Yes (10,000 litres) ★★★★	<ul style="list-style-type: none"> Install a water tank and plumb it into your home. 	101kg	\$68
DO YOU RECYCLE GREY WATER?	No	Yes, by bucket ↓	Yes, grey water system ★★★★	<ul style="list-style-type: none"> Install a grey water system. 	124kg	\$84
TOTAL	0		= /24 stars			

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WATER AND ENERGY USE OUTSIDE YOUR HOME (CONTINUED)

HOW DO YOU USE WATER?	YOUR WATER USE IS CLOSEST TO			ACTIONS	POTENTIAL SAVINGS		
	HIGH WATER USE	MODERATE WATER USE	WATERWISE		CO ₂ e	\$	Litres
WHAT TYPE OF GARDEN DO YOU HAVE?	I have lots of lawn and many thirsty plants	My lawn is a drought tolerant variety and I have many plants ★	I have a small area of lawn and only local plants and shrubs ★★	<ul style="list-style-type: none"> Plant local plants or hardy, drought tolerant lawns. This will make a huge difference to your water use in the garden. 	115kg	\$75	100,000
HOW MUCH OF YOUR GARDEN REQUIRES REGULAR WATERING?	More than 75%	Between 25 -75% ★★	Less than 25% ★★★	<ul style="list-style-type: none"> Reduce the amount of garden that requires regular watering by 50m² and replace with mulch. Plant local species and group plants according to their water, sun and nutrient needs. Use a soil wetting agent and mulch. 	115kg	\$75	100,000
WHEN AND HOW DO YOU WATER YOUR GARDEN?	I set my reticulation for my sprinkler permitted days and leave it throughout the year	I water only when my garden needs it by adjusting my irrigation controller for spring, summer and autumn and turn it off for winter ★★	I use a garden bore responsibly in a suitable area ★★★	<ul style="list-style-type: none"> Only provide as much water as your garden needs. Use approved moisture meters to ensure you are not over-watering. Adjust your controller for spring, summer and autumn. Use a rain sensor to prevent watering during rainy periods. Use tap timers and shut-off valves on your hoses. Recycle grey water from the laundry and bathroom to use in the garden using Health Department approved techniques or systems. Always ensure that your watering complies with the current water restrictions. 	*	*	*

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WATER AND ENERGY USE OUTSIDE YOUR HOME (CONTINUED)

HOW DO YOU USE WATER?	YOUR WATER USE IS CLOSEST TO			ACTIONS	CO ₂ e	\$	Litres
	HIGH WATER USE	MODERATE WATER USE	WATERWISE				
DO YOU USE MULCH OR COMPOST ON YOUR GARDEN?	No	Sometimes ★	Regularly ★★★	<ul style="list-style-type: none"> Mulching around plants dramatically reduces water loss. Make your own by composting from biodegradable products such as food scraps and garden clippings. 	*	*	*
DO YOU HAVE A SWIMMING POOL OR SPA?	Yes, with no cover	Yes, with a regularly used pool cover ★	No ★★★★	<ul style="list-style-type: none"> Install a pool cover to ensure you minimise water lost through evaporation. 	75kg	\$50	65,000
DO YOU WASH YOUR CAR?	Yes, every week, using many buckets of water	Rarely, using a few buckets of water ★★★	Rarely, at a car wash that recycles water ★★★	<ul style="list-style-type: none"> Wash your car less frequently and use a car wash – typically the water is recycled. If you wash your car at home, always wash it on the lawn not the driveway or path, so chemicals do not go in the stormwater drain and harm the environment. 	*	*	*
HOW DO YOU CLEAN YOUR DRIVEWAYS, PATHS AND FOOTPATHS?	With a hose or blowing the dirt into the kerb gutter with a blower vac	With a broom or rake ★	With a broom and I keep the kerb gutters outside my house clean ★★★	<ul style="list-style-type: none"> Use a broom to clean driveways and footpaths and don't sweep leaves, dirt or clippings into the gutter or stormwater. 	*	*	*
WHAT SOURCES OF WATER DO YOU USE?	Mains water only	Garden Bores ★	Tank rainwater, garden bore and grey water ★★★★	<ul style="list-style-type: none"> Reduce the amount of mains water you use by installing a rainwater tank and plumbing it into the house. 	*	*	*
TOTAL	0		= / 20 stars				

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ENERGY USE “IN” YOUR GARAGE

HOW DO YOU USE ENERGY?	YOUR ENERGY USE IS CLOSEST TO			ACTIONS	CO ₂ e	\$
	HIGH ENERGY USE	MODERATE ENERGY USE	ENERGY EFFICIENT			
DO YOU USE AN ALTERNATIVE TO THE CAR DURING THE WEEK (E.G. WALKING, CYCLING, PUBLIC TRANSPORT)?	No	One trip via an alternative to the car per week ★	More than one trip via an alternative to the car per week ★★★★	<ul style="list-style-type: none"> Walk, cycle or catch public transport for one or more weekly trips. 	27kg	\$13
DO YOU SERVICE YOUR CAR REGULARLY AND KEEP THE TYRES INFLATED TO THE CORRECT PRESSURE?	No	Sometimes make sure the car is serviced and the tyres inflated to the correct pressure ★	Always ★★★★	<ul style="list-style-type: none"> Have your car serviced regularly (the mechanic will ensure your tyres are inflated to the correct pressure). 	385kg	\$185
DO YOU DRIVE SMOOTHLY?	No	Sometimes ★	Always ★★★★	<ul style="list-style-type: none"> Drive smoothly. 	1,154kg	\$556
TOTAL	0		= /9 stars			

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START BY TAKING FREE ACTIONS that will save you money and help reduce your greenhouse gas emissions. Try “Living Smarter” by:

- switching off standby power;
- adjusting your water heater;
- drying clothes on the line (not in a dryer);
- adjusting your fridge thermostat;
- setting room heating and cooling to efficient levels;
- switching just one short car trip each week to walking, cycling or public transport.

MOVE UP TO TECHNICAL FIXES that will pay for themselves in just a few weeks.

Become a “Smart Consumer” by:

- changing most of your lighting to energy efficient (Compact Fluorescent) globes;
- fitting a Waterwise showerhead (or flow regulator);
- adding insulation (tubes of ‘lagging’) to your hot water pipes;
- blocking draughts around doors and windows;
- adding shades to East or West facing windows;
- organising your errands to cut out one car trip a week.

ALONG THE WAY use some of your savings to switch to GreenPower so that every bit of electricity you use comes from renewable energy sources like wind farms and solar power. Use \$10 per month from the savings you have made and switch your remaining electricity consumption to 100% GreenPower - saving another 3,000kg of CO₂.

PLAN YOUR INVESTMENTS in an Eco Makeover of your home and lifestyle.

Become a “Living Smart Champion” by:

- upgrading to energy efficient white goods;
- switching to solar hot water;
- installing a rainwater tank or grey water system.

In the longer term look at:

- installing solar power (photo-voltaic cells on your roof);
- replacing your old car with a more fuel efficient model.

YOUR STAR RATING

How did you score?

LESS THAN 25 STARS	There are many easy actions you can take to save hundreds of dollars. Make a list of actions you can do and set yourself a timeframe for making the changes. These changes could save you around \$1,500 and reduce your greenhouse gas emissions by around 4,500kg.
26-50 STARS	There are a lot of actions you can take that can save you up to \$400 per year and reduce your greenhouse gas emissions by around 3,000kg.
51-75 STARS	Your home and travel choices rate well. You should still be able to take a number of easy actions that can save you up to \$200 per year and reduce your greenhouse gas emissions by around 1,500kg.
76-99 STARS	Your home and travel choices are very efficient and eco-friendly. You may find a few more savings.



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