



How to Live Energy Smart

Tips on saving money in your home and helping the environment



About SEDA

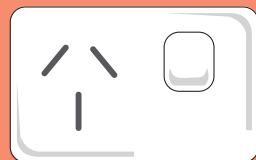
SEDA was established in 1996 by the NSW Government to deliver greenhouse gas reductions, and associated environmental, economic and social benefits to the NSW community by accelerating a transition to the sustainable production and use of energy.

We promote energy efficiency in your home and workplace, renewable energy like wind and solar, and other sustainable energy technologies.

SEDA's Residential Energy Efficiency team runs a number of energy saving programs, under the Live Energy Smart brand. These programs are focused on those technology groups that present the greatest opportunities for saving money and reducing greenhouse gas emissions.

Solutions for the future  SEDA

www.seda.nsw.gov.au

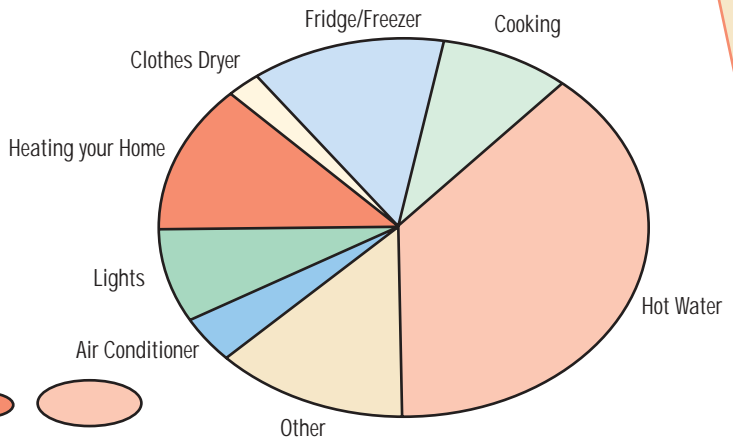


Why Save Energy?

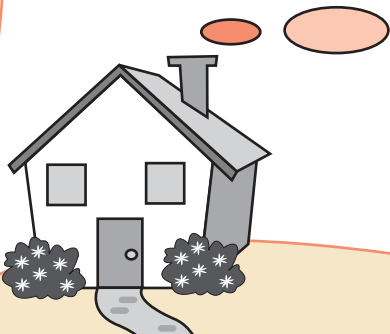
Most electricity in Australia is generated by burning coal, which emits carbon dioxide into the atmosphere, trapping heat and increasing global temperatures. It is the most greenhouse intensive form of energy production.

In NSW over 90% of electricity comes from coal-fired power stations. Households are responsible for a third of all NSW's energy use. Electricity consumed by the average household causes twice as many greenhouse gas emissions as the family car every year!

This booklet will give you tips on how to live more energy efficiently, reducing your energy bill and your greenhouse gas emissions. Plus there's a quick and simple home energy audit that you can complete.



What your home costs you each year
(based on the electricity consumption of an
average all-electric NSW home)





Hot Water

Hot water accounts for up to half of your home's energy consumption.

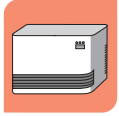
TIPS

- Use cold water in your washing machine and only operate with full loads.
- Fitting a AAA-rated showerhead can reduce your hot water usage by up to half, and you won't even notice the difference – except in your energy bill!
- Insulate the pipe work from your hot water system.
- A dripping tap can waste the equivalent of 10 bathtubs a month, so fix it!
- Install tap aerators and flow restrictors – these reduce the amount of hot water used, without reducing pressure flow.
- If you insulate around your bathtub when you renovate, you will keep the bath water hotter for longer.
- Using the suds saving facility on your washing machine will let you reuse the soapy water.

By installing a solar or heat pump water heater, you can save thousands of dollars on your hot water bills over the lifetime of the system. For an additional cost of \$1000–1500 over the price of a conventional system, a solar hot water system can pay for itself in 5–10 years, and solar hot water systems have longer life expectancies than other systems.

Call the Energy Smart Information Centre for details on the range of rebates and discounts available on these systems.





Heating Your Home

It's easy to keep your home warm without it costing you a fortune.

TIPS

- Close doors to unused rooms when the heater is on – this can halve your heating costs.
- Turning your heater down 1°C can reduce your bill by 10%.
- Using the right size heater for the space will ensure you're not wasting energy.
- Turn the heater off when you're not in the house, or use a timer.
- Turning off the pilot light on a gas heater during summer can save you \$15 or more each year.
- Close fitting curtains and blinds help reduce heat loss through windows – single panes of glass lose almost ten times more heat than the same area of insulated wall.
- Use your ceiling fan to circulate the hot air around the room.
- Opening the curtains on your north-facing windows on sunny winter days will help heat your home for free.
- Ask for our brochures on Home Heating Hints, Choosing a Heating System and Operating a Wood Heater for more information.

If purchasing a gas heater, be sure to look for the energy rating label – the higher the number of stars you see, the more you can save on running costs.





Cooling Your Home

If your home is designed with the correct solar orientation, artificial cooling systems should be unnecessary. But if that's not the case for you, follow these simple tips.

TIPS

- External window shading – awnings, eaves and external blinds – is the most effective way to keep your home cool.
- Open windows and ventilate the house when the outside temperature is lower than inside.
- On a hot day, close all blinds, curtains, windows and doors to keep out the heat.
- Regularly clean your air-conditioner or cooler, keeping coils and fans free of dust.
- Keep the area you are cooling to a minimum, and close doors to unused rooms.
- Turn off the cooler overnight and when you are out during the day.
- Locate the cooler on the shaded side of the home, away from direct sunlight.
- Buy an air-conditioner with a 5 or 6 star energy rating.
- Run exhaust fans in kitchens and bathrooms to flush out hot air overnight. This is especially useful on still nights.
- Use fans to create cooling breezes.
- Put off jobs such as cooking, washing and ironing for a cooler time of the day.
- Keep lights used to a minimum on hot summer nights.





Kitchen

- When buying a refrigerator, freezer or dishwasher, choose one with a high star energy rating. The more stars on the label, the more efficient the appliance and less energy it uses.
- Freezers should operate at -15°C to -18°C while fresh food compartments should operate at around 3°C to 4°C . Don't set the temperature too low – a change of 1°C can affect energy consumption by up to 5%.
- Make sure your refrigerator door seals are airtight. Test them by closing the door over a piece of paper so it is half in and half out of the refrigerator. If you can pull the paper out easily, the hinge may need adjustment or the seal may need replacing.
- Be sure to choose a refrigerator or freezer that's right for your needs – they operate at peak efficiency when filled to the correct capacity.
- Place your fridge in a cool spot, and make sure the coils get plenty of air circulation.
- Turning off your drinks fridge, when not in use, could save up to \$60 a year off your energy bill.
- Much of the energy used by ovens is wasted. Use alternatives such as microwaves, electric fry pans or pressure cookers.
- Keep lids on pots and simmer gently, rather than boiling rapidly, for more efficient cooking.





Insulation

A well insulated home can be up to 10°C warmer in winter and up to 7°C cooler in summer.

- Choose insulation with an appropriate R-value. A higher R-value means the insulation is more resistant to heat flow, keeping winter warmth inside and summer heat out!
- Insulate in the roof and ceiling, and save between 20–40% on heating and cooling costs.
- External wall insulation can save you an additional 10–60% on energy costs.
- Insulate the floor and save between 5–10% on energy costs.
- Avoid gaps in the insulation. Even if only 5% of the area is left uninsulated, up to 50% of the potential benefits may be lost.
- Make sure corners of ceilings, walls and floors are properly insulated – this is often where heat leaks are found.
- Good insulation should be coupled with effective window shading and ventilation in summer to avoid trapping heat inside the home.
- Draught-proof your home. In winter, your heating costs can increase by up to 25% because of draughts.
- Check doors, windows, fireplaces, air outlets, vents and skirting boards for gaps.
- Choose from the wide range of draught-proofing products available from hardware stores to seal these areas.

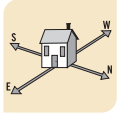




Lighting

- Compact fluorescent light bulbs last up to 10 times longer than regular incandescent light bulbs and use a lot less energy.
- For general lighting, use fluorescent lighting or compact fluorescent lamps in the kitchen, lounge, family room and other areas where lights are on for more than four hours each day.
- Turn off lights when you leave a room.
- Use fluorescent or compact fluorescent lamps fitted to security lights and outdoor lights that are on for long periods.
- Use programmable timers or daylight sensors to control outdoor and security lighting.
- Regularly clean light fittings, reflectors and lamp shades.
- Use task lighting rather than whole room lighting when a small amount of focused light is required, for example, a desk lamp while studying.
- Use the lowest wattage light needed to adequately light up an area.
- Avoid using multiple globe fittings, as they are an inefficient form of lighting.
- Avoid having several lights activated by one switch – use separate switches for each light.
- Make good use of natural light, particularly from north facing windows.





Building

An Energy Smart Home looks just like any other home but uses the best combination of the following elements to reduce household energy consumption by up to 40% and save you up to \$1,000 every year on your energy bills:

BUILDING ORIENTATION: placing living areas, such as the family room, kitchen, lounge and dining room on the northern side of your home will maximise warmth and light from the sun.

WALL, FLOOR AND CEILING INSULATION: a well insulated home is up to 10°C warmer in winter and up to 7°C cooler in summer. Look for the R-value, which measures the performance of the insulation – the higher the R-value, the better the performance.

VENTILATION: design your home to take advantage of cooling summer breezes, by incorporating cross ventilation in your home.

SHADING: shading windows in summer can keep you comfortable without high cooling costs. You can use such elements as eaves, heavy close-fitting drapes, vegetation, blinds, awnings and shutters.



THERMAL MASS: using materials with thermal mass, which are able to store thermal (heat) energy in your floor (for example, a concrete slab) or walls (for example, double brick) will enable them to absorb heat during the day and release it back into living spaces during cooler periods.



ENERGY EFFICIENT APPLIANCES: efficient heating, cooling, hot water, lighting and appliances will save energy and money. Look for appliances with high star ratings – the more stars you see, the more energy you save.

If you are renovating or building your home, you have the perfect opportunity to save money, and make your home as comfortable and energy efficient as possible.



Draughts

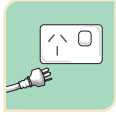
Draught proofing your home is easy and cost effective because draughts can increase your heating costs by up to 25%.

Check around your home for obvious draughts. Use an incense stick or a damp hand to detect the draughts – you will feel or see the air movement.

- Look for visible light under and around doors and windows or moving curtains.
- Listen for 'rattles' or 'whistling' around doors and windows – especially during strong winds.
- Feel for moving air around doors, windows, fireplaces, air outlets, vents, stairways, architraves and skirting boards.
- Use vegetation, other buildings and fences as wind breaks.
- Doorways between heated and unheated areas act as air-locks.
- Install swing doors instead of sliding doors.
- Avoid louvre windows in heated areas.
- Try to install doorways at the base of stairwells.
- Avoid spaces between different floor levels, especially in heated areas.
- Install draught excluders or weather-strips around the home.

Draught-proof doors at the base and between the door and its frame. Windows should have draught proofing between the operable sash and the frame. Block off chimneys when not in use.

Automatic door closers are available for swing and sliding doors and should be fitted to doors leading outside, doors to ventilated areas and doors between heated and unheated zones of your home.



Electronics and Your Home Office

ENERGY STAR® home electronics and office equipment use up to 75% less energy than standard products because they automatically switch into a power-saving “sleep” mode after a pre-set period of inactivity.

Most ENERGY STAR compliant home electronics products, such as TVs, VCRs, stereos and DVDs, are now sold with the energy-saving features already activated, so you start saving immediately, without doing anything. Look for the ENERGY STAR label on compliant products.

Most computer and office equipment is now ENERGY STAR-compliant, but only a small number of machines actually have the energy-saving feature enabled. If you already have ENERGY STAR featured in your computer, enabling it will cost you nothing more than a few minutes' time. Download the simple instructions from www.energystar.gov.au or call **1300 138 638** to find out how.

- Make sure that your equipment is turned off at the powerpoint when it is not being used for an extended period of time.
- Reduce paper consumption by minimising the use of full-page cover sheets for fax transmission. Stick-on labels placed on the first page of the fax message not only reduce the amount of energy and paper used, but can also save on STD telephone charges.
- Look for printers with a double-sided printing option.
- ENERGY STAR compliant fax machines can scan double-sided pages. This will reduce both your copying and paper costs.
- Purchase a photocopier that's the right size for you. A mid-volume copier installed in a low-volume office can use 70% more energy per page than an efficient low-volume copier.

And remember - a screen saver doesn't save energy!



Green Power

Green Power is electricity generated from clean renewable sources such as the sun, wind, water and organic matter.

Choosing Green Power in your home will reduce greenhouse gas emissions equivalent to taking two cars off the road each year! Phone 136 206 or visit www.greenpower.com.au

By choosing a government accredited Green Power product, you can have up to 100% of your household's energy usage generated from renewable sources.

As a result of the growing demand for Green Power, over 100 new approved renewable energy projects have been installed in Australia since 1997.

How can I be sure it's really Green?

The Green Power tick is your guarantee that your contributions are helping facilitate the installation of new sustainable energy projects in Australia.

Energy suppliers' Green Power products are independently audited so you can be sure your money is being well spent.

How do I choose Green Power?

Deregulation of the energy industry means all customers in NSW can choose who to buy their energy from.

To find out how to subscribe to Green Power phone 136 206 or ask your energy retailer whether they offer a Green Power product.

Energy Smart Home Audit

This is a quick and simple audit that you can do, to see how Energy Smart your home is.

SCORE these points if:

Air Leaks

- 2 points you have checked for all possible air leaks
- 2 points external doors have draught excluders fitted
- 2 points internal doors with gaps fitted with seals or 'snakes'
- 2 points all windows well sealed
- 2 points windows are fitted with thermal backed or close fitting heavy curtains

Insulation

Check your roof and ceiling, via the hatch, for insulation. Ideally, a house should also have wall insulation, and where relevant, floor insulation.

- 2 points the roof and ceiling is insulated

Lighting

- 2 points for every compact fluorescent bulb in your home

Hot Water

- 5 points gas boosted solar water system
- 4 points electric boosted solar water system
- 4 points heat pump
- 4 points gas instantaneous
- 4 points gas storage
- 1 points electric

Heating

- 3 points gas
- 1 points electric

Fridge

Test how good the fridge seal is by closing the door over a piece of paper. Pull firmly on the paper – if it slides out too easily, consider replacing the seals.

2 points good seals

3 points 3 star or higher energy rating

Shower

To measure the flow rate of your showerhead you will need a 2 litre measuring jug. Turn on for normal water flow and collect the water for 6 seconds. Multiply the water quantity by 10. This will tell you the amount of water used per minute. Any shower or tap that uses over 10 litres per minute is wasting water and energy.

2 points shower uses 9 litres or less per minute

2 points bathroom taps use less than 10 litres per minute

2 points kitchen taps use less than 10 litres per minute

Add up your total score _____

What did you Score?



36 points or more

Congratulations! Australia needs more houses like yours. You are living Energy Smart, saving yourself money and helping the environment.



11 - 35 points

You're on your way to living Energy Smart. Keep up the good work and try using a few more of the tips in this booklet. And the next time you buy a product for the home, make sure it is energy efficient!



0-10 points

There's plenty of room for improvement in your home. Read the booklet carefully, and contact our Energy Smart Information Centre for more assistance. You'll save money and live more comfortably.



Reduce

Energy

Be



Solutions for the future  SEDA

Smart

How To Contact Us

Come and visit our Energy Experts at the Energy Smart Information Centre:

Level 6, 45 Clarence Street Sydney

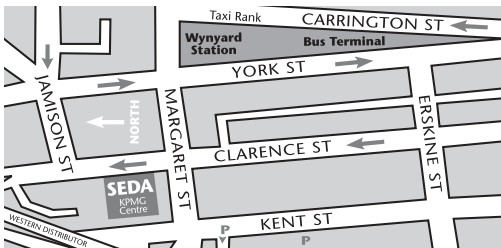
Or call 1300 138 638

Open Monday to Friday, 9am – 5pm

Mention this brochure when you contact ESIC for information and you'll receive a free show bag packed with Energy Smart goodies (while stocks last).

Visit our website: www.energysmart.com.au

The Energy Smart Information Centre is a free advisory service, run by the Sustainable Energy Development Authority (SEDA), an agency of the NSW Government. Visit www.seda.nsw.gov.au for more information on SEDA.



Trains: Wynyard Station is 3 mins walk away. Buses: York & Carrington Sts adjacent to Wynyard Park. Travel to SEDA by public transport to save greenhouse gas emissions.

The information in this brochure was derived from various sources and was believed to be correct when published. All information is advisory and provided in good faith.

Printed August 2002