

Energy efficient apartment living

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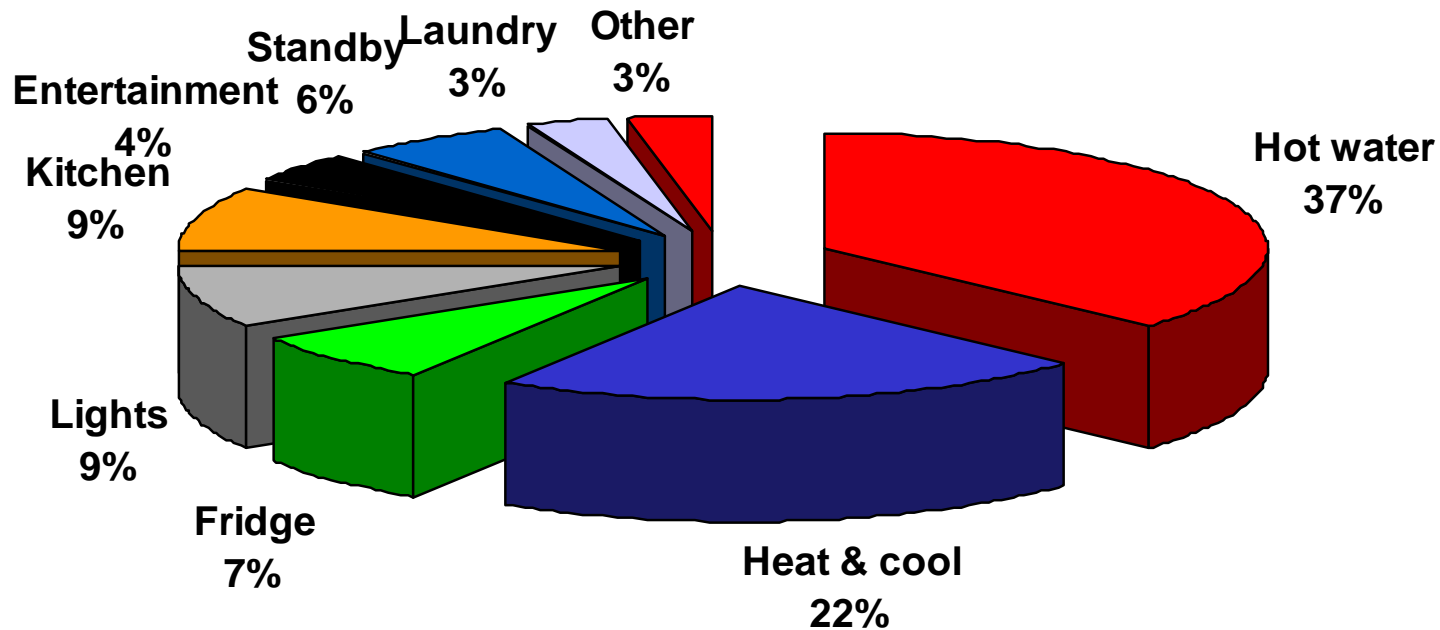


EnergyAustralia[™]
We're on it

Overview

1. Where does your energy go?
2. Standby power
3. Lights
4. Hot water
5. Heating & cooling
6. Fridges & freezers
7. Clothes washing & drying
8. Plasma & LCD TVs

Where does your energy go?



Standby power

- Standby can be up to 10% of household energy use, or about \$100/yr on energy bills
 - 1) Home office and 2) entertainment appliances are the worst offenders
 - Good news is standby of new appliances is falling
 - Bad news is number of appliances using standby has grown by 30% since 2000
- Switch appliances off at the power button, or better still switch them off at the wall where practical



Energy efficient lighting

- Phase-out of incandescent bulbs in November
 - 125 year old technology
 - Over 90% of the energy wasted as heat
- Alternatives:
 - **CFLs** use 80% less energy & last around 10 times longer
 - **Mains voltage halogen bulbs** use 30% less energy and last twice as long



The problem with downlights

- Each low voltage downlight uses around 60 watts of power (including transformer losses)
- The beam characteristic is like a spot light, making them unsuitable for general room lighting
- Commonly we compensate for this by installing a large number of fittings per room



Efficient downlight options

- IRC halogen bulbs
 - 30% energy saving & last twice as long
 - Simple replacement in existing fitting
- Fluorescent downlights
 - Up to 80% saving and last around 10 times longer
 - Mains voltage, so will need to replace whole lamp fitting
 - Generally not dimmable

LED downlights

- Pros

- Potential > 80% energy saving
- Manufacturers claim 30,000+ hour life
- Dimmable



- Cons

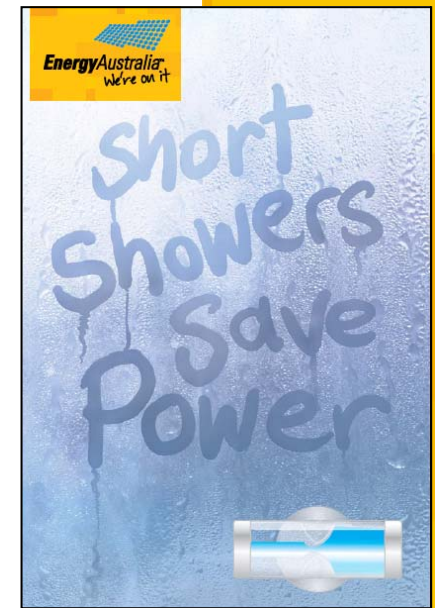
- High cost (but falling)
- Many products on the market do not give equivalent light levels

Hot water in apartments

- Hot water is the biggest energy user in the average home, and that is mostly for showers
- In apartments HW systems are most commonly:
 - Central gas units, or
 - Individual small (~ 50 litres) electric units
- Small electric “quick recovery” units have continuous electricity supply, which means the hot water is *very expensive* (~ three times OP1)

Hot water – shorter showers

- 1 minute less in the shower saves enough electricity to run a standard TV for 4 hours
- 2 minutes less can save a family of four up to \$100/yr
- Shower timers can be helpful



Hot water – low flow showerheads

- Prices start at less than \$20
- Save up to \$100/yr on energy and water bills
- Reduce greenhouse by more than 0.5 tonnes/yr



Heat & cool efficiently

- Make your apartment thermally efficient
 - Shared walls & floors/ceilings works in your favour
 - Free ceiling insulation offer (Ph 1800 808 571)
- Windows
 - External shades better than internal blinds to keep out the heat
 - Close curtains/blinds when heating in winter
 - Tinting or double glazing
- Stop draughts by sealing gaps

Heat & cool efficiently

- Choose the right heating/cooling option:
 - *Electric heaters* like bar radiators, fan heaters and oil column heaters are cheaper to buy but expensive to run. Best suited to small spaces or personal heating.
 - Gas much delivers more heat at lower cost (and much lower greenhouse emissions)
 - *Reverse cycle air conditioning* is an efficient heating option for larger spaces
 - Fans much cheaper to run than A/C in summer
- Use it efficiently:
 - 23-26degC in summer and 18-21degC in winter
 - Only cool/heat the area being occupied
 - Switch it off when it's not needed (timers can help)

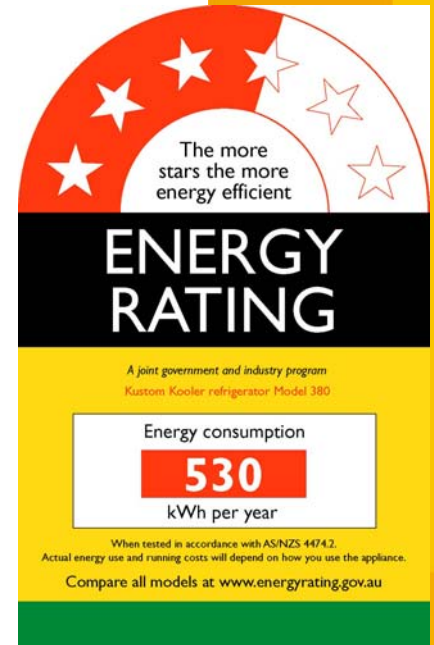
Beware the silent energy guzzlers!

- Oil column heaters
 - Cheap to buy but not cheap to run
- Underfloor heating
 - Switch it off when not required
- Ducted air-conditioning
 - Only heat/cool the occupied areas



Fridges & freezers

- Dramatic improvement in refrigerator efficiency in the last 5-10 years
- 2nd fridge buyback scheme
- Ensure fridge running efficiently:
 - Check door seals with a \$5 note
 - 80mm gap at back/sides for ventilation of rear coils

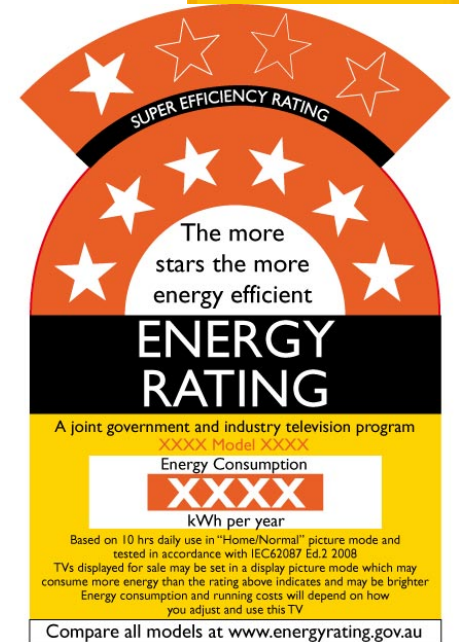


Clothes washers & dryers

- Wash in cold water and save around \$50 a year
- If you must wash in warm water, front loaders are a much more energy efficient option
- Clothes dryers use about 15 times more energy than clothes washers (on cold wash)
- But most homes only use clothes dryers as a backup in wet weather
- If you use the clothes dryer for 4 loads/week it would add about \$150/yr to energy bills

Stars on the TV screen

- Large plasmas can use around 4 times the energy of a standard CRT television
- Potentially more than the refrigerator
- Average home now has 2.1 televisions
- Introduction of Energy Star Label (Oct 09)
- Some manufacturers already applying labels voluntarily



Summary – top ten energy savings tips

1. Switch off standby power
2. Use energy efficient lights
3. Have a shorter shower
4. Install a triple star showerhead
5. Insulate your home
6. Heat & cool efficiently
7. Choose high star appliances
8. Get rid of the old second fridge
9. Wash clothes in cold water
10. Use the clothesline or clothes horse