



Stay  
warm  
*AND*  
save  
money

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A guide to reducing  
your energy bills

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[www.tascoss.org.au](http://www.tascoss.org.au) or  
[www.slt.org.au](http://www.slt.org.au)



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# Stay warm and save money

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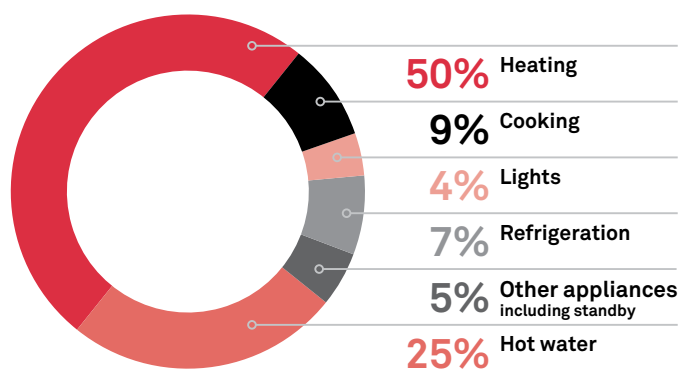
**There are lots of simple ways to reduce power costs – even if you live in a rental house.** While each action is small, combined they can help save hundreds of dollars on your power bills.

**This booklet can help you to decide which options will work best for you.** Not all of these actions will suit every household and some require the approval of the property owner or may need a plumber or electrician.

The costs of energy efficiency upgrades can vary greatly depending on your circumstances. Remember to seek a number of quotes when planning your upgrade.

## Where does my power go?

Heating and hot water are the major power costs for most Tasmanians, especially in the winter months. You can also save money on lights, cooking, fridges and much more. Find out in this book what you can do to save energy and to save money on your power bill.



(Information based on average Tasmanian home)

You can use Aurora Energy's calculator ([www.auroraenergy.com.au/energy-calculator](http://www.auroraenergy.com.au/energy-calculator)) to understand which areas of your home are the biggest electricity users and where you could be saving money.

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# About your electricity bills

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Electricity bills are measured in kilowatt hours (**kWh**). It is a measure of “power use” multiplied by the amount of “time” that it is used.


1 kilowatt hour equals 1,000 watts for 1 hour.

**1kWh =**  
1,000 Watts for 1 hour

 1 x 100W incandescent light globe for 10 hours

OR

 1 x clothes iron running at 1,000W for 1 hour



## Which tariffs am I on?

You can find out which tariffs you are on by looking at your electricity bill. You may have more than one tariff listed on your bill. For example – permanent heating and hot water appliances are usually on a different tariff from the rest of the household’s light and power circuits. The most common residential tariffs are listed below.

- Residential Light and Power (Tariff 31)**
- Heating and Hot Water (Tariff 41)**
- Off-peak with afternoon boost (Tariff 61)**
- Off-peak, night period only (Tariff 62)**
- Residential Time of Use (Tariff 93)**
- Pay As You Go (PAYG) and PAYG Plus**
- Solar Feed in Tariff (Tariff 140)**

The pricing for electricity changes every year. To find the latest prices visit [www.auroraenergy.com.au](http://www.auroraenergy.com.au) or [www.1stenergy.com.au/tas](http://www.1stenergy.com.au/tas). Aurora Energy can analyse your bills and pattern of electricity use and provide advice on the most appropriate tariff for you.

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## What is the best way to use my tariff?

### **Residential Light and Power (Tariff 31) Heating and Hot Water (Tariff 41)**

Tariff 41 (heating and hot water) is for ‘hard wired’ permanently installed heaters and hot water systems (such as heat pumps, PureHeat heaters and hot water cylinders).

The cost is significantly cheaper than Tariff 31 (residential light and power). To save the most money, use hardwired heaters on Tariff 41 in preference to plug in or portable heaters on Tariff 31.

### **Off-peak with afternoon boost (Tariff 61) and Off-peak, night period only (Tariff 62)**

These off-peak tariffs are most often used to power a “heat bank” or storage type heater that heats up during off-peak times. They can provide cheaper heating, but not always when people require the warmth. Take care to turn the heater off over the warmer months.

Tariff 61 is not available for new installations, but will continue to apply to existing installations already assigned to the tariff.

Unlike the Residential Time of Use Tariff, you pay the same rate all day and night for these tariffs.

### **Residential Time of Use (Tariff 93)**

This tariff provides cheaper rates than Tariff 31 and Tariff 41 for electricity used during off-peak times, but it is more expensive than both these tariffs during peak times. By taking advantage of the cheaper off-peak times and limiting use during the more expensive peak times, you may be able to access savings on your electricity bills. This tariff generally suits people who use more electricity during the daytime, such as people who are at home all day. You can also use timers on your appliances to run them during off-peak times. This tariff is restricted to people with a meter that can record time of use data.

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## **PAYG and PAYG Plus**

PAYG customers pay for their electricity as they go using a card to re-charge their meter. From 1 December 2019, Aurora Energy is introducing PAYG Plus, which replaces the previous PAYG product and will initially only be offered to these customers. For an additional service fee, you can sign up to Tariff 93 on PAYG Plus. The service fee covers additional features such as access to daily electricity use and notifications to help you stay in control of your account balance.

## **Solar Feed-in (Tariff 140)**

If you have solar panels on your roof, you are paid around  $\frac{1}{3}$  the price for electricity that you export to the grid than it costs you to buy electricity from the grid. This is because you are only being paid for the value of your electricity, not the costs associated with transporting and selling it. To get the most out of your rooftop solar, try and use electricity on your light and power circuits (Tariff 31) during the daytime when the sun is shining. Using the electricity generated by your solar panels in the house rather than exporting it means you are buying less electricity at the full price.

## **Should I get solar panels?**

Solar panels are an effective way of making your own electricity and reducing the running costs of your home. However, they are also a substantial investment and it is sensible to:

- Ensure you purchase a system with a good warranty – 10 years on the inverter and 20+ years on the panels.
- Only use Clean Energy Council accredited installers.

The cost of solar panels has dropped in recent years. A bigger system is likely to pay for itself more quickly than a smaller system, even if your electricity consumption is low. If you used all the electricity generated in your home, a rooftop solar system should pay for itself in around 3 years at current prices. If you export all the electricity, the payback period is more like 10 years. Most systems will pay themselves off in 5 to 7 years.

Try to use more electricity when the sun is shining to improve the payback of the system. The best way to do this is by using timers on dishwashers, washing machines, dryers and also your hot water system.

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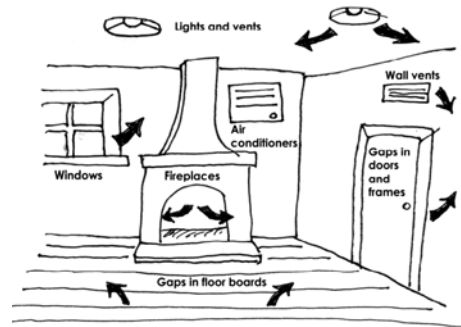
# How to keep warm



## Cover gaps

Cold air can creep into your home through gaps and cracks around doors and windows.

**Seal the gaps to keep warm air in and cold air out.**



## Where's the draught?

Can you feel cold air coming in? Find the draught by holding an incense stick near doors, windows and other joins. Does the air move the smoke?

There can be big gaps around skirting boards, particularly noticeable with bare wooden floors. Seal the gaps with a **DIY caulking filler** or use **rolled up newspaper strips** to push into the gap between skirting board and floor.

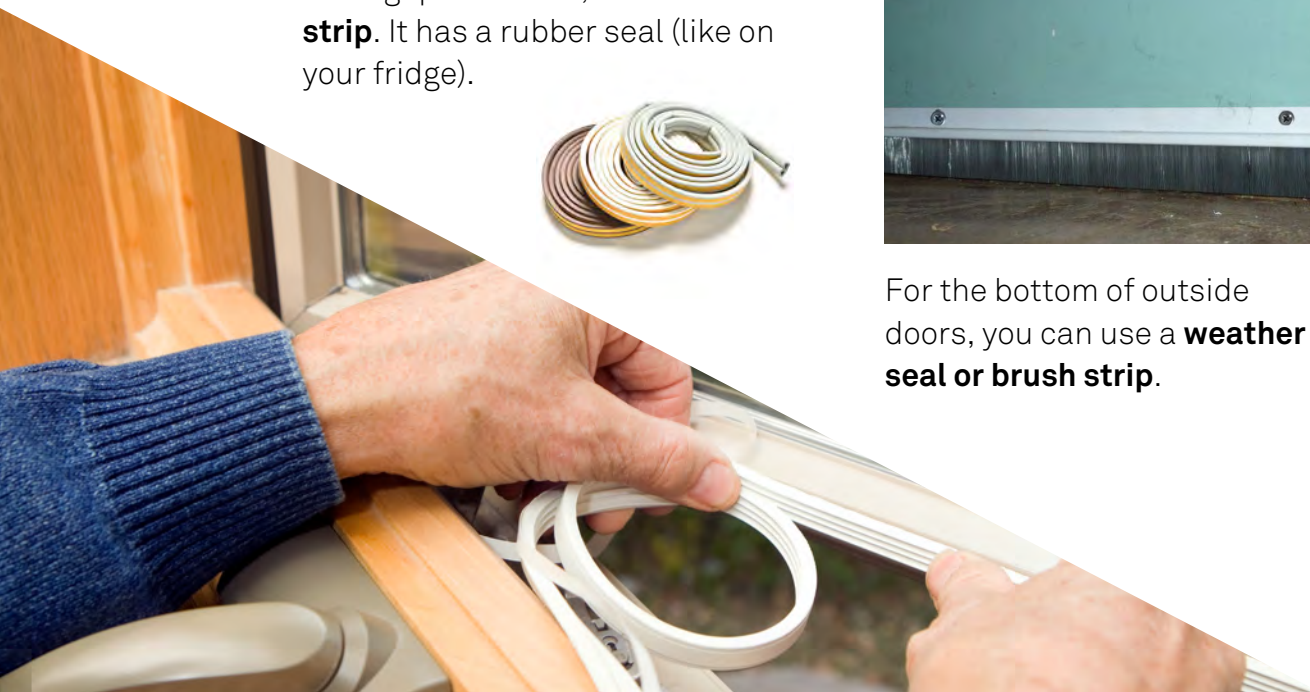
Use foam tape to seal around the sides of doors and windows. You can buy this at a hardware store. If the gap is uneven, use a **weather strip**. It has a rubber seal (like on your fridge).



Block a gap at the bottom of your door with a **door snake** or rolled-up towel.



For the bottom of outside doors, you can use a **weather seal or brush strip**.







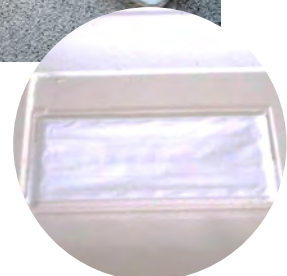
## Cover your floor

Rugs or carpet help to keep floors warm.



## Cover vents

Cover old vents with cloth tape or contact adhesive. **Don't try this if you already have condensation issues.**



BEFORE

AFTER

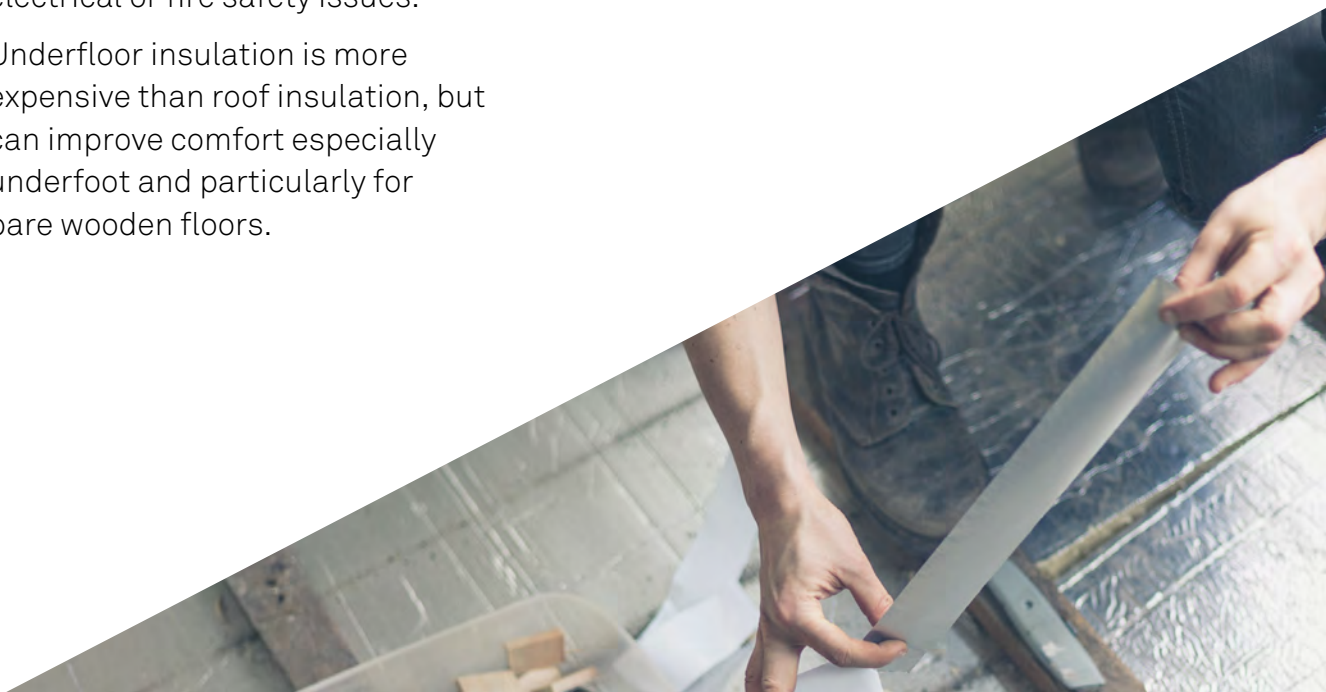


## Insulate, insulate, insulate

Insulation is crucial to keeping a house warm. Modern standards recommend R4 insulation in the roof. That is insulation that is over 20cm deep!

It is recommended that insulation be upgraded by a trained installer who will take care to manage any electrical or fire safety issues.

Underfloor insulation is more expensive than roof insulation, but can improve comfort especially underfoot and particularly for bare wooden floors.



# Windows

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## Let the sun in

To keep your house warm in winter – when the sun is shining, **open your curtains**. When the sun is gone, close them.

In summer – close curtains to keep the sun out during the day. This will keep the house cooler.



## Use thick curtains

The best curtains are **full-length** (down to the floor) thick or lined. There should be no gaps.

You can often get good curtains cheaply from op-shops.

Most **blinds** don't keep the heat in because they have large gaps.

If buying new blinds, ensure they fit closely to the sides of the window, or even install side tracks.





## Use pelmets

**Pelmets** trap air between the curtains and the window. They help stop heat loss through the window.

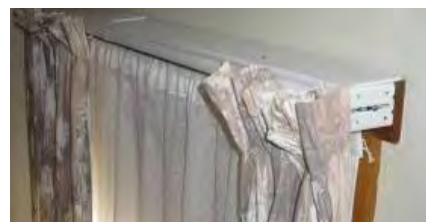
The most common type is a **wooden box pelmet** that sits over the curtain rail.

A **ledge pelmet** sits on top of the curtain rail, out of sight.

It can be made from thick cardboard, foam, or wood – anything that blocks the space between the rail and the wall.



BOX PELMET



LEDGE PELMET



## Double glaze (the easy way)

Double glazing is expensive to install in existing windows, but there are cheaper alternatives. Window **insulation film** can help keep warmth in. It is a see-through plastic which you attach to the window frame creating an air gap between the window and the film. Use a hairdryer to make the film taut.

Or try using **bubble wrap** for instant double glazing! Just hold it in place with velcro tabs or a light mist of water.

Another option is to **cover unused windows** with material or corflute, especially during winter. Corflute is often available from used real-estate signs.



# Condensation and mould

**Condensation is formed when warm moist air touches a cooler surface.**

To reduce condensation try to **reduce** the amount of water vapour released into the air. Other strategies include **venting** your home better, having a warmer home and moving furniture away from cold or damp walls.



## Reduce dampness

- Open up windows and doors for 20 minutes during the warmest part of the day.
- Use extractor fans in bathrooms and kitchens, or open windows to let out steam.
- Keep the bathroom door closed while showering.
- Cover cooking pots with lids.
- Wipe down wet windows.
- Whenever possible, don't dry clothes inside the house – if using a dryer open a nearby window or vent the dryer outside.
- Window insulation film (or bubble wrap) is a great way to reduce moisture on windows.
- Use a fan heater in damp rooms for a few minutes each day.
- Wood heaters are great for drying moist air.



**Mould can only thrive in moist conditions.** In such conditions, mould spores can grow and will continue to grow until steps are taken to both remove the mould and eliminate the source of moisture.

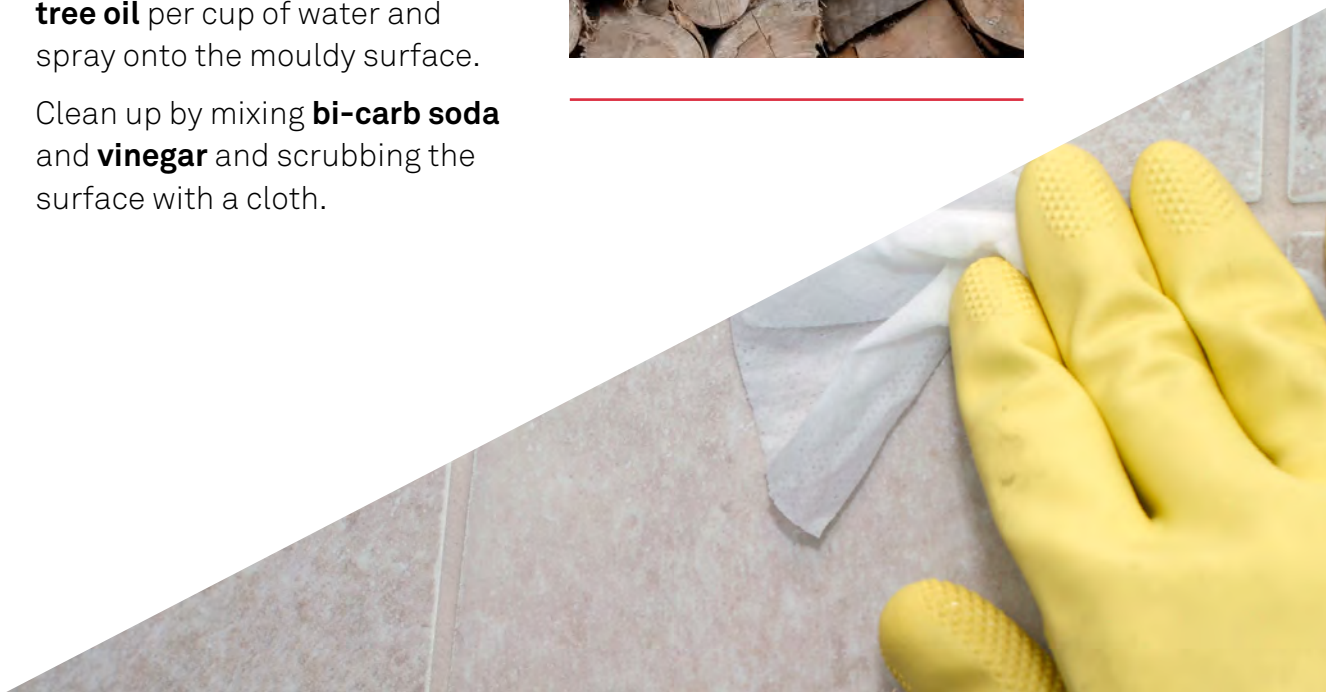
Problem areas can be bathrooms, shower recesses, windows, under leaking roofs and near guttering and down pipes.

Check that garden beds or wood piles are not creating damp walls by covering the “damp proof course” in brickwork.



## Clean up mould

- **Wear safety gear** such as gloves, dust mask and eye protection.
- Dilute around 1 teaspoon of **tea tree oil** per cup of water and spray onto the mouldy surface.
- Clean up by mixing **bi-carb soda** and **vinegar** and scrubbing the surface with a cloth.



# Heating



## Heat yourself

Put on a jumper, thermals and woolly socks instead of turning up the heater. The more clothing you have on, the less you need to spend on heating.



## Only heat the rooms you use

### Why heat your whole house?

If you spend most of the day in one part of the house, just heat that area. **Close the doors** to the rest of the house. If there's no door, **hang a blanket** or curtain in the archway or hall. Warm up your bedroom with the heat from your living room **just before you go to bed.**

A **hot water bottle** warms you under the covers, where you need it most (but for safety, don't use this with an electric blanket and always use a bottle cover).

## Every degree counts...

**Every degree adds 10% to your heating bill.**

If the room is "toasty warm", it should ring alarm bells.

Set your heater to the lowest comfortable temperature, this is "**1 degree above being cold**".

You can do this by lowering the temperature a degree and then wait 15 minutes, and lower again until it is "**just comfortable**" and set the thermostat at that temperature.

**As a guide, 18-21 degrees in winter is often considered comfortable.**





## Remember to turn off your heaters

It's important to remember to turn off your heater at night and when you're not at home.

If you want your home to be warm when you get up, or arrive home, you can use a timer.



## Mix the air to stay warm

Hot air rises and tends to collect near the ceiling leaving the air near the floor colder.

Improve this by “**mixing the air**” by using heaters with fans or install a ceiling fan.

In “winter mode” a ceiling fan will gently mix the air and bring warm air down from the ceiling.



## Use the right heater

### Which heater is best for you?

Use the best heater for your heating needs, and this will keep the costs down.





## Heat pumps

Heat pumps are the cheapest form of electric heating. They use  $\frac{1}{4}$  of the energy of a normal electric heater and, if hardwired on Tariff 41, cost 85% less to run than a standard fan or column heater. For best results:

- Turn off overnight or when away from the house for more than a few hours.
- Turn the thermostat down to “1 degree above cold” (see advice on page 12).
- Direct the air at the floor to mix the hot and cold air.
- Avoid sitting in the direct flow of air from the heat pump.



## “Pureheat”

“Pureheat Royal/Belmont” heaters can use quite a lot of energy (6, 7 or 8kW models). If you have one of these heaters you should use it wisely to keep your power bill down. These heaters have two main settings “space heat” and “radiant heat”. Each is suited for a task. You can turn both settings on, but you will use more energy!

**Space heat:** If you are trying to heat a room quickly or larger spaces turn on the “space heat”. It heats the air and spreads it around the room with the fan. The most efficient way to use these heaters is to have the thermostat set to “low” and turn the right hand switch on and off to maintain a “just comfortable” temperature. If this isn’t hot enough, turn on the thermostat to “high” to engage the second element (be careful to set this to zero when you are not using the heater).

**Radiant heat:** This heats people and surfaces that are directly in front of the heater. It doesn’t heat the air directly but will gradually warm all the surfaces of the room when used for longer periods of time. This may be a good option where doors are frequently opened as there will be less heat loss than the heated air of the “space heat” mode.







## Fan heater

Fan heaters are “**plug-in**” and warm the air quickly. Effective for fast heat and for short periods of time but can be costly for longer periods of use. These heaters create air movement and can be useful where there is condensation in your home.



## Column heater

Column heaters are “**plug in**” and slowly heat the air. They are one of the **most costly** ways to heat a space. **But they may be good for someone with asthma.** For best results:

- Stand the heater in the middle of the room.
- Use the thermostat set on the lowest comfortable temperature.
- Turn it off if you're out of the room.



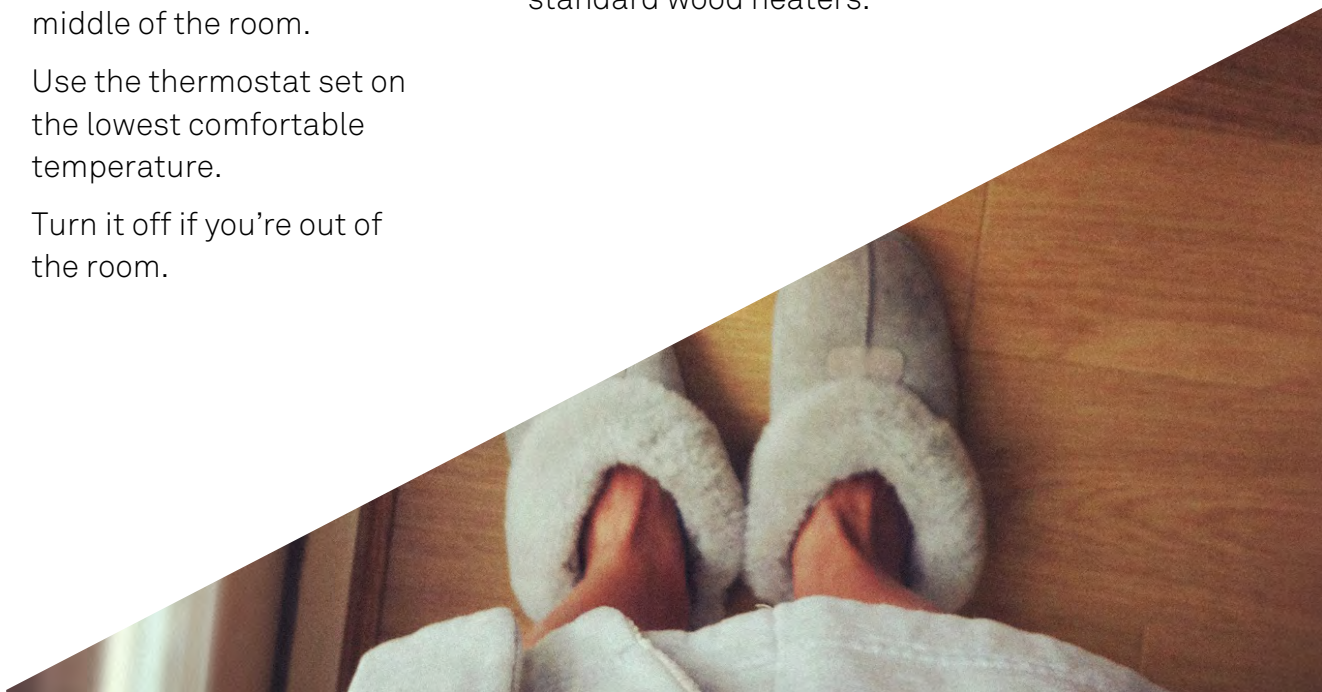
## Wood heater

Wood heaters can be efficient and cheap to run if used correctly:

- Start with lots of small pieces of wood until you have a big fire. When starting a fire or adding more wood, allow the fire to burn brightly for 20 minutes before turning it down.
- Use only dry wood.
- Wood heaters work best if you don't put too much wood in.
- If the heater has a fan –use it to spread the heat around.

These simple steps will help to reduce smoke as well as soot and tar build up in the flue.

**Pellet heaters** burn manufactured wood pellets. The pellets are placed in a hopper which automatically feeds the pellets into the fire box. These are efficient and convenient but more expensive to operate than standard wood heaters.



# Hot water



## Set your hot water system to 60°C

Ask a plumber, electrician or your landlord to set your hot water system temperature at **60 degrees**.

If it's lower than this, bacteria can build up.

If it's higher than 60 degrees, it can increase your costs for hot water.



## Cover your hot water pipes

**Use foam tubing** to stop heat loss from your hot water pipes. Called lagging, this tubing fits easily over the pipes. You put it onto the pipes for a metre or so where they leave the tank. You can get it from a hardware store.



To put it on:

1. cut along the length of the lagging to open it up,
2. slip it onto the pipe, then
3. use electrical tape or cable ties to hold it on snugly.





## Install a timer

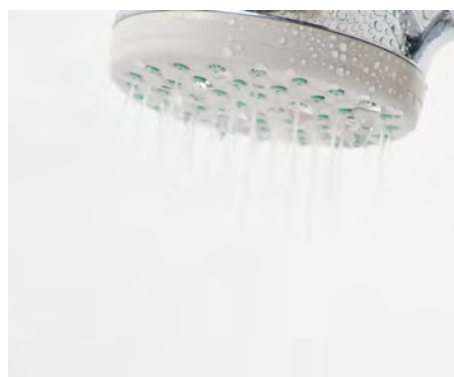
You can get an electrician to install a timer on your storage hot water system to either use electricity during off peak times or when the sun is shining if you have solar panels. Some new systems come with in-built timers.



## Have short showers

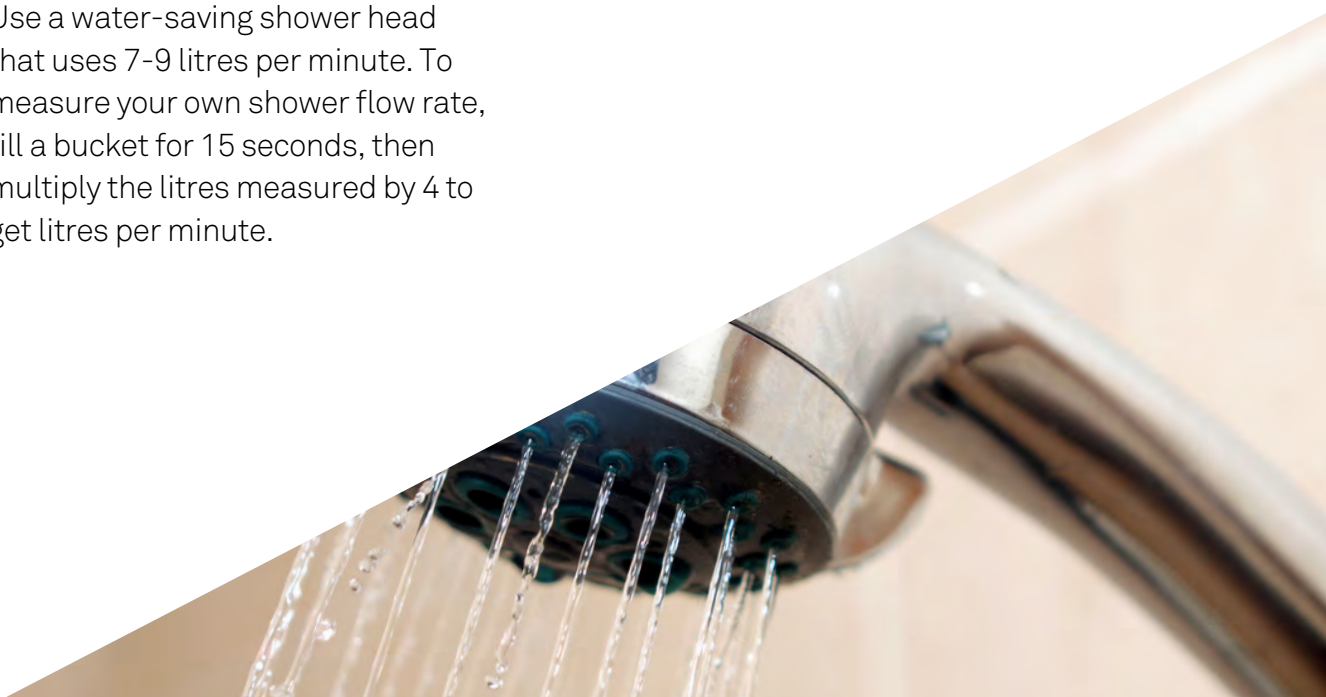
Shorter showers of three or four minutes mean less hot water used so less cost. You can use a **timer** to keep track.

Have **shallow baths**. Baths use more water than showers.



## Buy a water-saving shower head

Use a water-saving shower head that uses 7-9 litres per minute. To measure your own shower flow rate, fill a bucket for 15 seconds, then multiply the litres measured by 4 to get litres per minute.





## Remember to leave your mixer tap turned all the way to the COLD side

If it's left in the middle it runs warm water. This costs you money.



## Use flow restrictors on your taps

Flow restrictors for all your taps will reduce water use.



## Fix that drip!

Fix **dripping** hot water taps. A drip every 2 seconds can waste over one thousand litres of hot water every year. This is as much water as 10 baths!



FLOW RESTRICTORS



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## Buying a new hot water system

Your hot water system will need replacing one day and it is important to be prepared so you can make a good decision when it is required. If you are not prepared you may make a bad choice that will cost you money in the long run.

### Heat pump hot water systems

These use the efficiency of heat pumps to warm your hot water. They are around ¼ of the cost to run than a normal electric hot water system, but have a higher up-front cost.

### Solar hot water

Solar hot water systems also cost ¼ of a normal electric hot water system to run, but often have the highest up-front cost. Solar hot water systems require electric or gas boosters and best suit large households that use a lot of hot water.

They are also a good combination with a wood heater which has a wet back – the woodheater providing hot water in winter and the sunshine heating the water in summer.

### Instantaneous hot water

If you don't use much hot water an instantaneous hot water system may suit your needs. They can be either electric or gas fired and only heat the water as you need it. If they are appropriate may depend on the wiring in your house.

### Electric storage hot water

This is the standard hot water system that is typical in most houses in Tasmania. If replacing your tank, try to install it indoors or arrange a cover to be built around it to keep the tank warmer. You can install "solar ready" electric tanks. They only cost a bit more but make it possible to add on solar power later.



HOT

# Lights



## Turn lights off



## Use natural light when you can

If you're reading, **use a lamp** with a lower-power light globe.



## Use energy efficient lights

**Light emitting diode (LED) light globes** fit most light sockets and many are compatible with dimming switches. These are energy efficient and last a long time. They come in a range of colour temperatures from warm to cool and can reach full brightness instantaneously.

Use **LED tubes** wherever possible. They don't flicker, have natural light colour and use a lot less energy.



CFL



LED





## Get the right light for the job!

Downlights are very popular but are often energy hogs. Halogen light globes use much more power than LED downlights. Halogen downlights also create a draught in your roof because the insulation needs to be removed from around them as they get very hot. LED downlights that are rated “IC-F Abutted and Covered” can be installed in the ceiling and have insulation covered all over them.



## What do I do if my energy saving light breaks?

**LEDs have mostly replaced compact fluorescent lights (CFL). CFLs contain very small amounts of mercury, so it is important to clean up carefully if you break a globe.**

If one breaks:

1. Open windows and leave the room for 15 minutes.
2. Wearing rubber gloves, sweep up (don't vacuum) the broken material.
3. If small pieces are in the carpet, use a damp cloth or sticky tape to pick them up.
4. Put the pieces into a sealed plastic bag. Take it to be recycled or put in outdoor rubbish bin.

5. Wash your hands and face. If you get any pieces of broken globe on your clothes, put clothing in the rubbish bin or wash carefully by hand with soap and water.

The first time you vacuum the area where the globe was broken, remove the vacuum bag afterwards. Put the bag in the outdoor rubbish bin.



# Appliances



## Buy energy efficient

Large appliances such as fridges, washing machines and dryers can have high up-front costs, but they can last 10-15 years. The energy efficiency of the model you buy will make a big difference to the running costs and power use over its lifetime.

**Before you buy**, ask yourself – is it energy efficient?

For **any appliance**, ask yourself – can I turn it off when I'm not using it?

Use a **laptop computer**. They use much less power than a desktop.

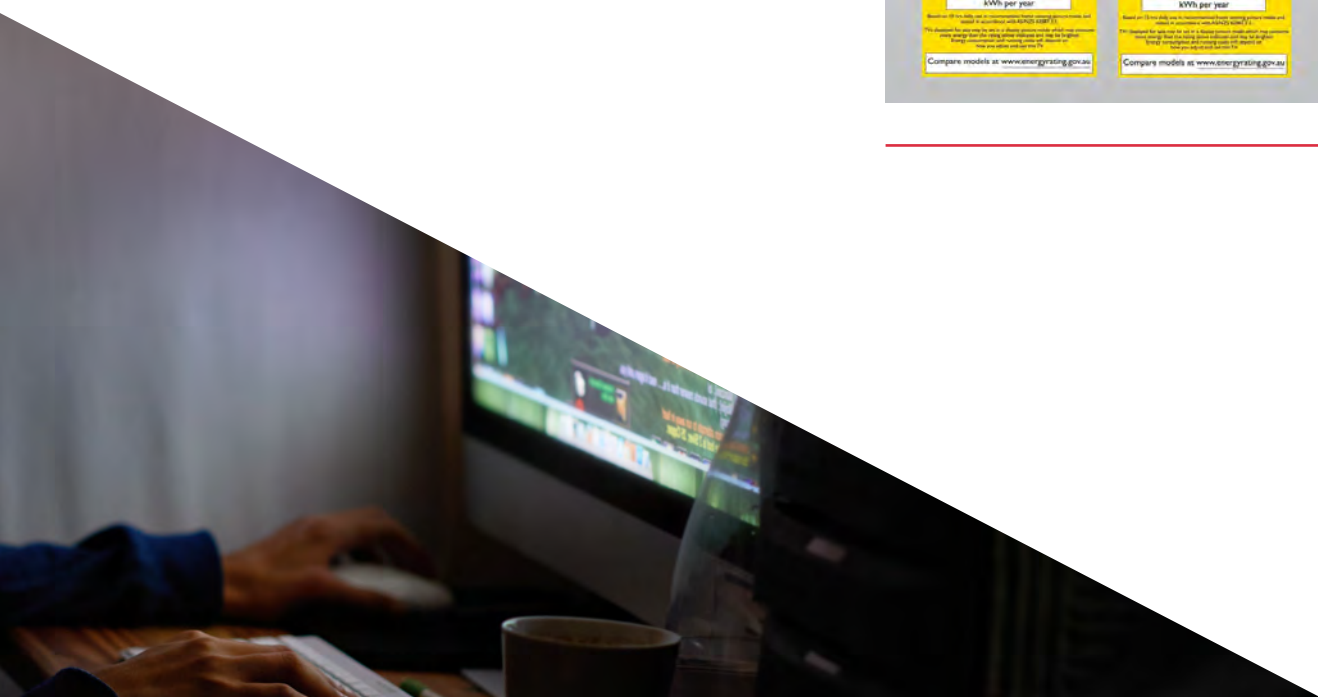
Use a **smaller TV**. Big TVs use a lot of energy.



## How many stars?

If you're buying white goods, check the energy label to see how much electricity per year it uses (in kilowatt hours). The lower the better.

A fridge (or freezer) with a 5-star energy rating uses half as much energy as one with a 1-star rating.







## Don't leave them on standby

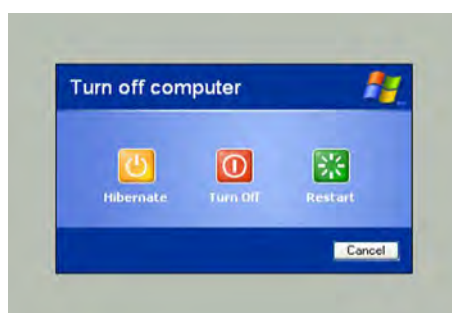
**Standby power** is the energy used by appliances when they are not in use.

Even though it's a small amount for each appliance, it all adds up. On average, around 5% of your home's total energy use!

Switch appliances off **at the power point** when they are not being used.

It can be a pain to turn off computers because they take a long time to start up again.

Try clicking on **Hibernate**. The computer will switch off completely, but starts up quickly when you turn it back on.



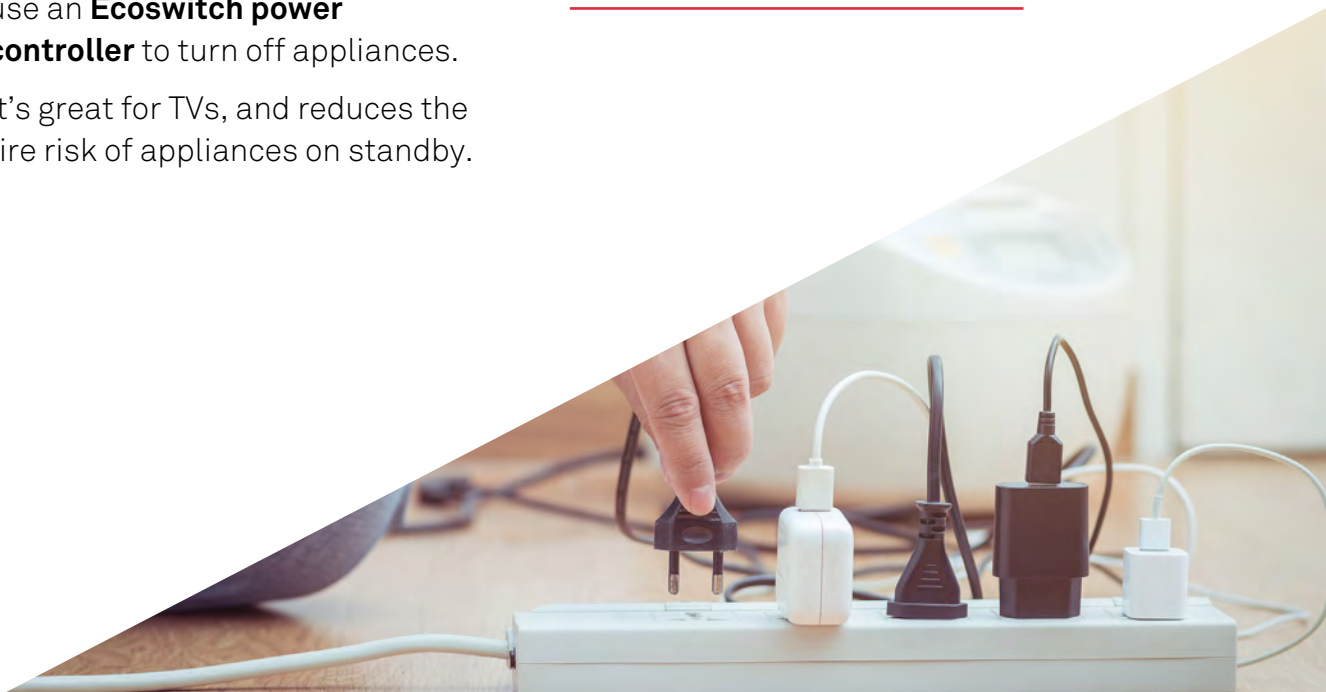
ECOSWITCH



## Use an Ecoswitch

For hard to reach power points, use an **Ecoswitch power controller** to turn off appliances.

It's great for TVs, and reduces the fire risk of appliances on standby.



# Fridges and freezers



## Keep your fridge set at 5°C

Keep your fridge at around 5°C.

Make sure your freezer is set at -15 to -18°C and defrost it regularly.



## Seal fridge doors

Make sure fridge and freezer doors have **good seals** that do not leak cold air.

If you can easily slide a piece of paper in your fridge door, the seals need replacing.

This can be done by an appliance repairer or specialist resealing company.





## Keep it ventilated and cool

Fridges and freezers are cheaper to run if placed in the coolest part of the kitchen and out of direct sunlight.

Allow space at the back and on top for air to circulate and keep the unit cool.

Consider locating fridges and freezers in unheated rooms.

Keep fridges and freezers well stocked for best efficiency.



## Turn off that extra fridge

Do you really need that second fridge or freezer? Usually these are older models that don't run efficiently. Unplug it or get rid of it or use it only for those occasional times of year like Christmas when you really need it.



# Cooking



## Toast, don't grill

Grills use more power than a toaster and only do one side at a time – use the toaster for toast.



## Use lids on pots and pans

**Lids keep the heat in** so food doesn't take as long to cook. This saves energy.



## Think before you fill

It takes a lot of energy to boil water. Fill your kettle with only the number of cups of water needed.



## Thaw it

**Thaw frozen food** in the fridge before cooking. This saves on cooking time.



## Use the microwave

A microwave can reduce cooking costs by up to 75%. Consider using the microwave instead of the oven or stove.

If you need to use an oven, try and cook several things and make the most of the energy used.



# Washing clothes



## Use front loading

Front loading washing machines are usually more **energy and water efficient** than top-loading machines. You can compare models by looking at the information on the star-rating stickers. Always check how much electricity the appliance uses (in kilowatt hours).



## Wash with a full load

Use the washing machine when it is fully loaded. This will use less energy than running smaller loads of washing.



## Wash with cold water

Washing with cold water gets your clothes just as clean, and will cut your power bills.

## Drying clothes

Use a **clothes line** for drying clothes. In winter, find an undercover area and set up clothes racks.

If you need to use a **dryer**, try to partly dry on a clothes line first. Always put a full load in the dryer.



# Further information

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You can find more information about hardship programs, energy saving appliances and other tips to save power at the following websites.

- Aurora Energy – Your Energy Support  
[www.auroraenergy.com.au/want-bit-help-your-energy-bill-yes](http://www.auroraenergy.com.au/want-bit-help-your-energy-bill-yes)
- NILS Network of Tasmania  
[www.nilstasmania.org.au/](http://www.nilstasmania.org.au/)
- Aurora Energy – Energy Advice  
[www.auroraenergy.com.au/residential/energy-advice](http://www.auroraenergy.com.au/residential/energy-advice)
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[www.energymadeeasy.gov.au/](http://www.energymadeeasy.gov.au/) and Energy Rating  
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