

## SUPPORT MATERIAL #4: Standby power

Calculate: Activity 3



### Standby power

Many household appliances are switched on 24 hours a day, all year around. These appliances include televisions, stereos, video and DVD players, microwave ovens and mobile phone re-chargers.

Standby power is the energy consumed by an appliance when it's not performing its primary functions. Standby is often called 'vampire', 'phantom' or 'leaking' electricity.

A standard microwave oven will use approximately 26 kWh per year just to display the digital clock, compared to 97 kWh per year used for cooking food (based on an average 10 minutes use per day).

Have you ever noticed that a mobile phone recharger stays warm even when you are not charging your phone? Generally only 5 per cent of the energy used by rechargers actually recharges the phone. The rest of the time it is simply turned on and wasting electricity.

See page 2 for more examples of common household appliances and their corresponding standby consumption rates.

The energy used to maintain standby power can contribute up to 10 per cent of your household electricity use. Studies have shown that energy used in standby mode contributes to 1 per cent of world CO<sub>2</sub> emissions. To put that in perspective, all the air travel on earth contributes 3 per cent of emissions.

Turning off appliances at the switch is an easy way to increase your energy efficiency and reduce CO<sub>2</sub> emissions.

Remember: check with all members of the household before switching appliances off at the power point.

### The 1 watt initiative

The Australian government has introduced a policy that stipulates that by 2012 all new appliances with a standby mode use no more than 1 watt (w) of electricity for the standby component.

For more information visit:  
[www.energyrating.gov.au/library/pubs/200209-standby.pdf](http://www.energyrating.gov.au/library/pubs/200209-standby.pdf)

### Common appliances that use standby power

Any appliance that doesn't have an on/off switch is generally using electricity when it's plugged into an electrical socket.

Examples are charging devices for mobile telephones, electric razors, toothbrushes and power tools.

The following website provides virtual tours through homes in different countries, that show the different appliances that consume standby power and how much they use.

<http://standby.lbl.gov/hometours/hometours.html>

### Glossary

#### Volts

The unit of electrical pressure. High voltage requires more insulation and clearances than low voltage.

#### Watt

This is the rate at which energy use is measured. A watt is defined as the number of joules per second, that is,  $1\text{ W} = 1\text{ j/s}$ .

Other terms used above are explained in *Support materials #19: Glossary*.



