



### 3. The economics of energy efficiency

The upfront cost of installing an energy efficiency measure is returned to you over time, in the form of lower electricity and/or gas bills.

Some new appliances are very efficient and have very low running costs. The cost of buying new appliances can be offset by the savings you make on your power bills.

The purchase price of a new appliance can be returned to you in a few months or a few years. If energy prices go up, the appliance will pay for itself even more quickly.

#### Reducing running costs

##### Heating

Heat exchange technology, used in reverse cycle air conditioners and heat pump water heaters, significantly reduces the running costs of space and water heating.

##### Lighting

LED lighting saves enormous amounts of energy (up to 90%) and can pay for itself in less than a year.

##### Fridges

Replacing an old, leaky and inefficient fridge with a new energy efficient model can pay for itself within 2–3 years.

Electricity prices have increased a lot in the last five years. Whether this will continue is unknown. Gas prices are also predicted to rise significantly over the next 5–6 years.

In the longer term, it may be more costly to keep your current appliances and equipment than to install energy efficient new ones.

#### Gathering the data

- Use the star rating label or an energy meter to check the energy consumption of current appliances/equipment.
- Look at your bill for the price of energy per hour in kilowatt hours (kWh for electricity) or megajoules (MJ for gas).
- Check the Internet or ring a local supplier for the price of new appliances/equipment.
- Check the star rating label or see the star ratings for the energy consumption of new appliances/equipment.



## To calculate payback time

### Efficient lighting

Here's how to calculate the cost of replacing a 50 watt halogen downlight with a 6 watt LED light, giving an energy saving of 88%!

The LED bulb costs about \$30. It is used for around 40 hours per week and it costs 35c/kWh to run.

(We've estimated an average tariff here.)

**Energy saving:** The halogen costs \$36.50 to run for a year whilst the LED costs just \$4.38!

**Verdict:** At a saving of more than \$32 per year, the LED pays for itself in less than a year.

Even better, LED bulbs can last up to 30 times longer than incandescent bulbs – so this new bulb may last you 14 years whilst saving you a whopping \$450 over that time!



## FACTORS TO CONSIDER WHEN REPLACING AN APPLIANCE OR EQUIPMENT

- ▶ Calculate the power savings of replacing this appliance or equipment
- ▶ Identify how substituting this appliance will improve comfort and enjoyment as well as energy efficiency
- ▶ Estimate how long you think the current equipment will last
- ▶ Establish that the replacement is reliable and good quality
- ▶ Calculate how this investment will reduce the energy your centre uses.
- ▶ Find out how you can recycle or dispose of the old item responsibly.

### Quick tips

- You don't have to rely on guesses about savings – just measure and do the sums.
- Use a simple payback or return on investment calculation to justify spending money on energy efficiency.
- Displaying this information and telling your efficiency story in reports and the media could help others with their purchasing decisions.
- Dispose of old equipment responsibly.

### Further resources

Check out A Greenhouse Around the Corner website:

[www.agreenhouse.net.au/helpful-resources](http://www.agreenhouse.net.au/helpful-resources)

### Related fact sheets

For more fact sheets, go to A Greenhouse Around the Corner website:

[www.agreenhouse.net.au/fact-sheets](http://www.agreenhouse.net.au/fact-sheets)

