be energy smart

Home appliance cost cards

Answers

1.

Phone charger

Watts per hour:
3

Running cost:
0.1 cents

Phone charger

- 3 watts/hour
- 3/1000 to convert to kWh (kilowatt hours)
- (3/1000) x 38c to convert to cents/hour

2.

Fridge

- 460 litre
- 5 star energy rating

Watts per hour:
30

Running cost:
1.1 cents

Fridge

- 460 litre
- 5 star energy rating

- Energy star label says 260 kWh/yr
- This energy use is based on the fridge running 24/7 i.e. 8760 hours/yr
- (260/8760) x 38c to convert to cents/hour

3.

Radiant heater

Watts per hour:
1200 (high)

Running cost:
45.6 cents

Radiant heater

- on high

- High setting is 1200 watts/hour
  Medium is 800 watts/hour
  Low is 400 watts/hour
- On high 1200/1000 to convert to kWh
- (1200/1000) x 38c to convert to cents/hour

4.

Television

- 55 cm
- 4 star energy rating

Watts per hour:
115

Running cost:
4.4 cents

Television

- 55 cm
- 4 star energy rating

- Energy star label says 420 kWh/yr
- Energy use is based on the TV running on average 10 hours/day ie 3650 hours/yr
- (420/3650) x 38c to convert to cents/hour

5.

Halogen downlights

- bank of four

Watts per hour:
220

Running cost:
8.4 cents

- Assume each globe is 50 watts and each globe has a transformer of 5 watts
- 220 watts/hour
- 220/1000 to convert to kWh
- (220/1000) x 38c to convert to cents/hour

6.

Portable fan

Watts per hour:
70

Running cost:
2.7 cents

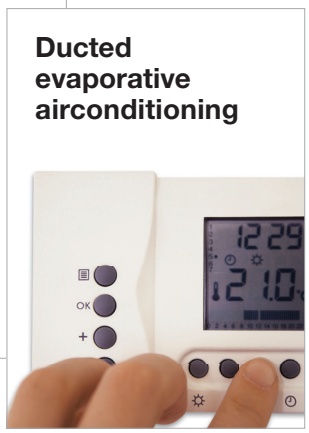
- 70 watts/hour
- 70/1000 to convert to kWh
- (70/1000) x 38c to convert to cents/hour

7.

Ducted evaporative airconditioning

Watts per hour:
1500

Running cost:
57.0 cents



- 1500 watts/hour
- 1500/1000 to convert to kWh
- (1500/1000) x 38c to convert to cents/hour

8.

Dishwasher

- large 12 setting
- 4 star energy rating

Watts per load:
644

Running cost:
24.5 cents per load

- Energy star label says 235 kWh/yr
- This energy use is based on 1 load/day i.e. 365 loads/yr
- (235/365) x 38c to convert to cents/load

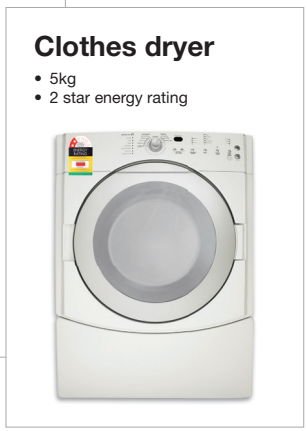
9.

Clothes dryer

- 5kg
- 2 star energy rating

Watts per load:
4442

Running cost:
$1.69 per load



- Energy star label says 231 kWh/yr
- This energy use is based on an average 1 load/week ie 52 loads/yr
- (231/52) x 38c to convert to cents/load

10.

Portable convective heater

Watts per hour:
2400

Running cost:
91.2 cents

- 2400 watts/hour
- 2400/1000 to convert to kWh
- (2400/1000) x 38c to convert to cents/hour

11.

Electric oven

- high heat

Watts per hour:
1800

Running cost:
68.4 cents

- On high, 1800 watts/hour
- 1800/1000 to convert to kWh
- (1800/1000) x 38c to convert to cents/hour

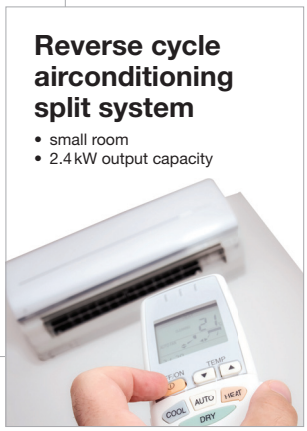
12.

Reverse cycle airconditioning split system

- small room
- 2.4 kW

Watts per hour:
685 @ 350% efficiency

Running cost:
26.0 cents



- 2400 output watts/hour with 685 input watts/hour @ 350% efficiency
- 685/1000 to convert to kWh
- (685/1000) x 38c to convert to cents/hour
- See below for further explanation of RCAC

Reverse Cycle Air Conditioning (RCAC) – Split Systems

- The systems are very energy efficient – some up to 450% efficient
  - » i.e. for every 1 input watt, approximately 4.5 output watts are produced
  - » note: running costs are based on input watts
- For convective appliances which are designed to heat and/or cool air, a formula is used to determine how much heat is required to satisfactorily heat/cool the area
  - » for heating – 100 w/m2
  - » for cooling – 125 w/m2
- This formula is based on a room with an insulated ceiling that can be closed off (zoned) from the remainder of the house, with a ceiling height of 2.7m
  - » the required heat for a 6m x 4m room = 2400 output watts (2.4 kW)
  - » with an average RCAC split system efficiency of 350% the input watts are 685
  - » i.e. 685 input watts/hour are needed to produce 2400 output watts/hour (at 350% efficiency).