

In order to calculate the average operating cost for any electrical appliance you can use the following formula:

$$\text{watts}/1000 = \text{kW} \times \text{hours of operation} = \text{kWh} \times \text{kWh rate} = \text{cost}$$

Watts can usually be found on the appliance nameplate.

Example: How much does it cost to operate my electric heater? An electric heater wattage is usually given on the unit itself, or with the literature that comes with it. A simple example is 1000 watts. To use this heater for 1 hour would cost based on UK Midlands British Gas standard tariff of 12.6p (September 2016) would be:-

$$1000 \text{ watts} = 1\text{kW} \times 1 \text{ hour of operation} = 1 \text{ kWh} \times 12.6\text{p} = \text{£}0.126\text{p}$$

This can then be calculated by hours used per day and by how many day although dependent on individual usage and of course the type of building it is being used in? Is it double glazed, insulated, type of floor and roof etc.

$$700 \text{ watt} \quad 0.7 \times 12.6\text{p} \quad = \quad \text{£}0.09\text{p per hour}$$

$$900 \text{ watt} \quad 0.9 \times 12.6\text{p} \quad = \quad \text{£}0.11\text{p per hour}$$

$$1250 \text{ watt} \quad 1.25 \times 12.6\text{p} \quad = \quad \text{£}0.16\text{p per hour}$$

$$1500 \text{ watt} \quad 1.5 \times 12.6\text{p} \quad = \quad \text{£}0.19\text{p per hour}$$

$$1800 \text{ watt.} \quad 1.8 \times 12.6\text{p} \quad = \quad \text{£}0.23\text{p per hour}$$

The running costs of our towel rail Thermostatic and standard elements are as follows using the same formula –

Thermostatic

$$300 \text{ watt} \quad 0.3 \times 12.6\text{p} \quad = \quad \text{£}0.04\text{p per hour}$$

$$600 \text{ watt} \quad 0.6 \times 12.6\text{p} \quad = \quad \text{£}0.08\text{p per hour}$$

$$900 \text{ watt} \quad 0.9 \times 12.6\text{p} \quad = \quad \text{£}0.11\text{p per hour}$$

Standard Heating Element

$$150 \text{ watt} \quad 0.15 \times 12.6\text{p} \quad = \quad \text{£}0.02\text{p per hour}$$

$$250 \text{ watt} \quad 0.25 \times 12.6\text{p} \quad = \quad \text{£}0.03\text{p per hour}$$

$$400 \text{ watt} \quad 0.4 \times 12.6\text{p} \quad = \quad \text{£}0.05\text{p per hour}$$

$$600 \text{ watt} \quad 0.6 \times 12.6\text{p} \quad = \quad \text{£}0.08 \text{ per hour}$$

$$900 \text{ watt} \quad 0.9 \times 12.6\text{p} \quad = \quad \text{£}0.11\text{p per hour}$$