

Estimating Energy Consumption at Home

Issue 2,
February, 2014

Since many appliances have a range of settings (for example, the volume on a radio), the actual amount of power consumed depends on the setting used at any one time.

Use this formula to estimate an appliance's energy use:

$$\begin{array}{c} \text{Electricity Consumption (kWh)} \\ \downarrow \\ \text{Power (watts) x Hour of Operation x 30} \end{array}$$

The electricity bill calculation is based on the current rate of [Tariff A - Domestic Tariff](#).

Electricity consumption usually increases due to the following reasons:

- Additional electrical appliances as the family member grow
- Electrical loading or size of the appliances
- Modern life style leads to using more electrical appliances
- Longer usage of appliances
- Capacity of appliances which can be adjusted at maximum, result on high load factor, e.g. air condition, fan, water heater, etc.
- Replacement of smaller appliances to bigger capacity
- Faulty appliance will result in appliance operating longer hour and wasting electricity, e.g. refrigerator with faulty thermostat, shortage of refrigerant, or defective door gasket

Here are some examples of the range of typical wattages for various household appliances:



REFRIGERATOR

Watt: 1200 watt
Usage: 24 hours/day



RICE COOKER

Watt: 730 watt
Usage: 0.75 hours/day

AIR-CONDITIONER

Watt: 750 watt
Usage: 7 hours/day



WASHING MACHINE

Watt: 850 watt
Usage: 0.5 hour/day



TELEVISION

Watt: 150 watt
Usage: 5 hours/day



LIGHTING

Watt: 36 watt
Usage: 5 hours/day