

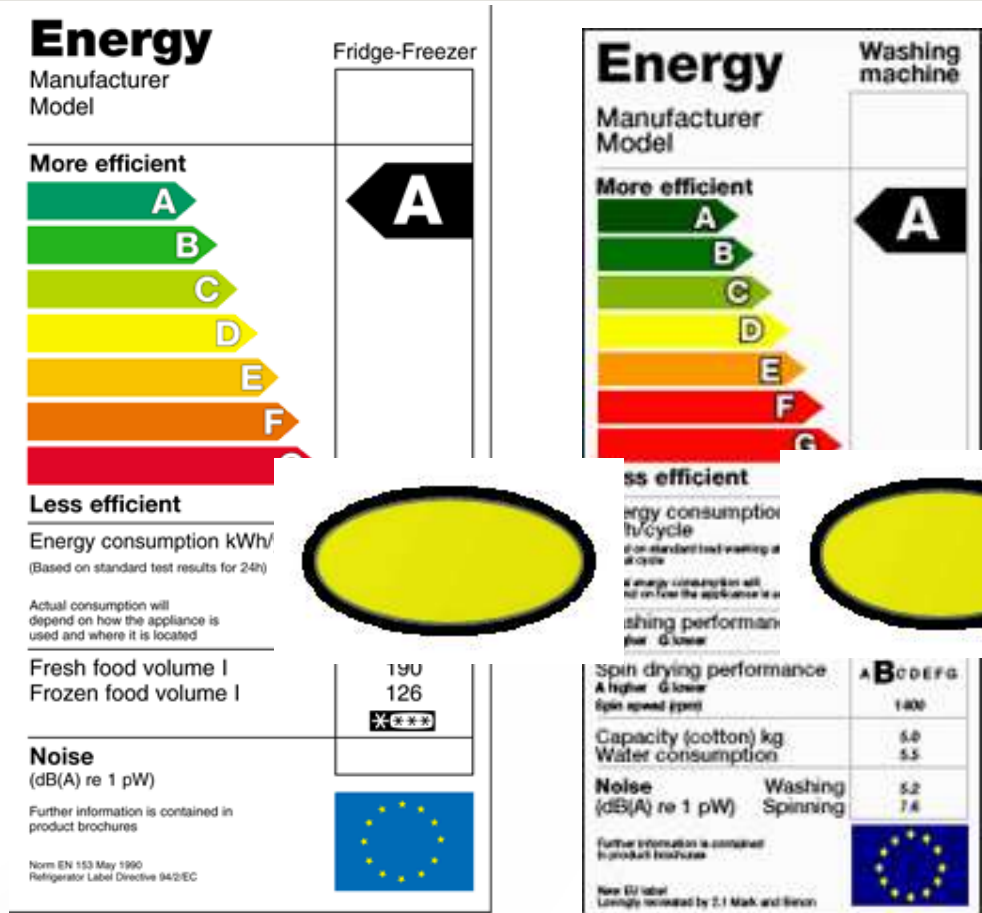
# Saving on appliances energy use

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# Energy Ratings



Energy ratings compare similar appliances:

- Size
- Functions

Look for the actual energy use

# High consuming appliances

Appliance	Proportion consuming more than 365 kWh/year (about £50)
Fridge Freezer	52%
Freezer	36%
Electric cooker	32%
Tumble dryer	35%
Plasma TV	57%
Aquarium	27%
Wine cooler	67%

Data from Household Electricity Survey 2010/2011

# Measuring and monitoring

- Monitor your overall consumption
  - Easy with smart meters,
  - Borrow from CCF
- Measure your appliances
  - How much does your TV take on standby?
  - How much to run the washing machine/dishwasher



See <http://nicola.qeng-ho.org/elec-usage/elec-app.php>

# kW and kWh

1 kWh = 1 kW for 1 hour

Television: say 100 W

1 kWh = 10 hours \* 100 W

Electric shower 10 kW

1 kWh = 6 minutes

Boil the kettle:

3 kW for 2 minutes =  $3 \cdot 2 / 60 = 0.1$  kWh

1 kWh = 10 \* boiling the kettle

Typical home electricity use

8-10 kWh/day

(more in winter, less in summer)

# Tips

Avoid over-filling the kettle  
Boil 1 mug less, 4 times/day  
=> 36 kWh/year



Run the dishwasher less often  
Save 1 run per week =>  
60 kWh/year

Turn down the brightness  
on your TV  
Save 20 W, 5 hours/day  
=> 36 kWh/year



Turn off XXX (4 Watts standby) at the switch  
Save 4 W, 24x7  
=> 35 kWh/year

# Standby power

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- Since 2010, by EU directive most appliances must have standby power  $< 1\text{W}$
- $1\text{ W} \Rightarrow 9\text{ kWh/year}$  (about £1.20)
- For older appliances  $10\text{ W}$  is not unusual.
- Is it warm? If so it has a high standby.

# Saving energy with a microwave oven

Cooking vegetables ✓

Heating up rice ✓

Heating up soup ✗

Defrosting food ✗

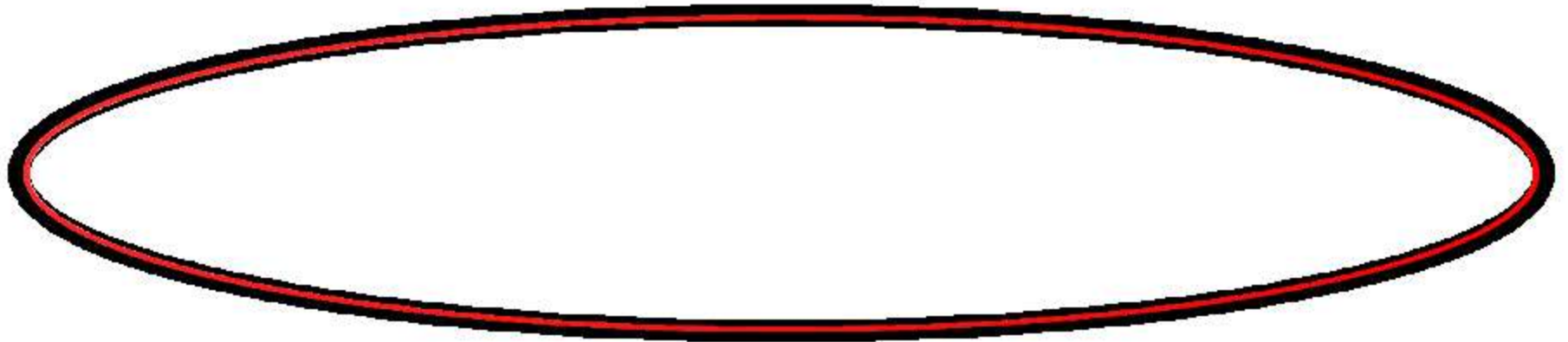




# What's the point of Smart Meters

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- No more estimated bills
- Accurate real time monitoring, facilitates savings
- Potential for TOU pricing: higher prices at peak times



# Thank you for listening

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- Energy ratings
- Measuring and monitoring
- Energy saving tips
- Why we need smart meters