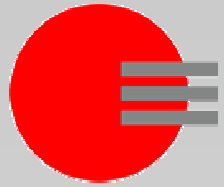
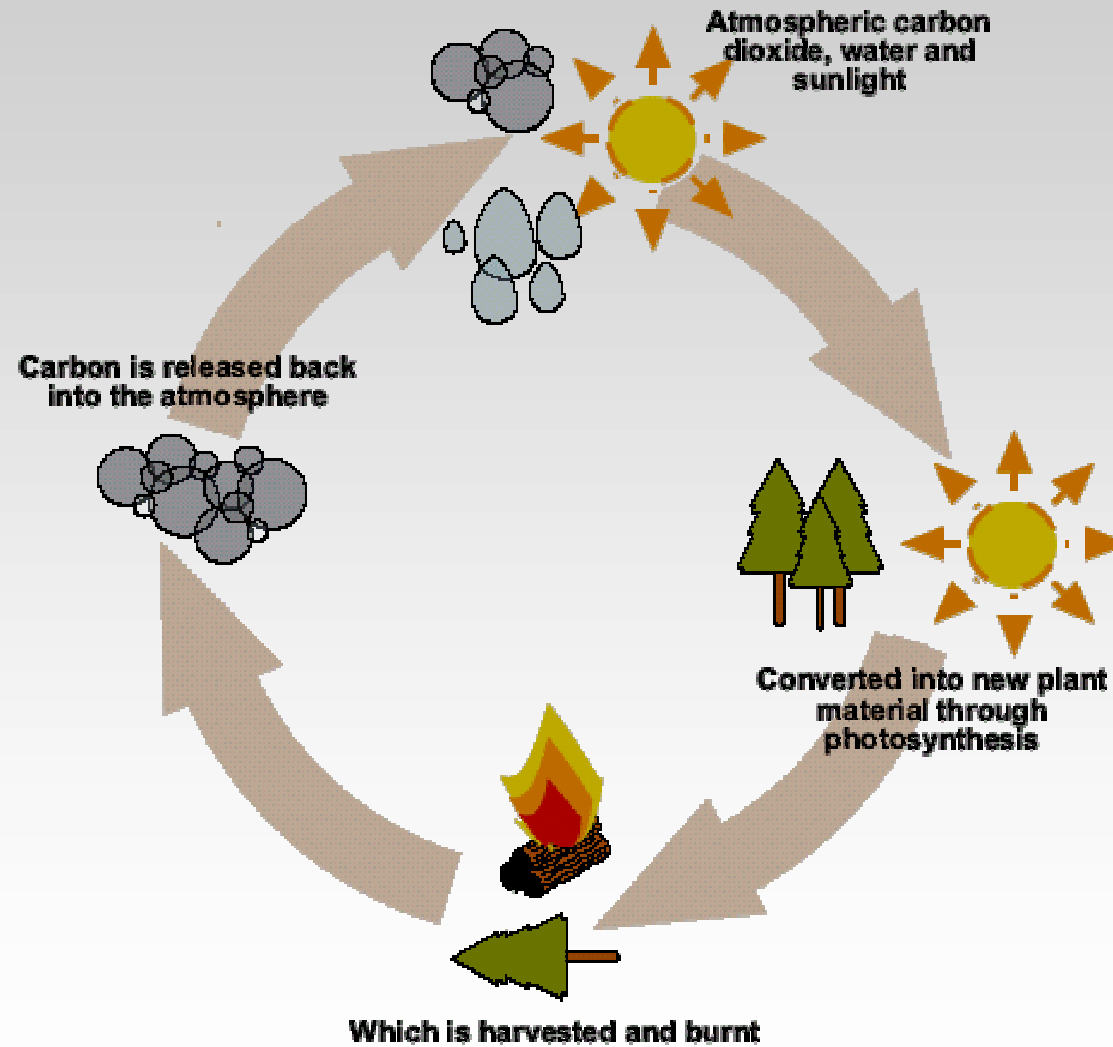


# Wood Fuel Heating

**Sandra Hayes**  
Head of Training

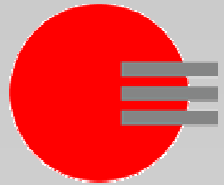


# The Carbon Cycle



Source XCO2

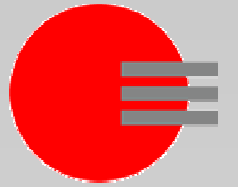




# Types of Wood Fuel

- Logs – from forestry, tree surgeons etc
- Woodchip – from forestry or short rotation coppice (SRC) mainly of willow & poplar
- Pellets – made from sawdust – a by-product from sawmills

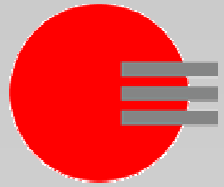




# Log Burning Stove

- Up to 15kW, can have back boiler & radiators
- Poor turn down
- Efficiency 40-60%
- Appropriate to domestic applications
- Require daily attention
- Oxygen supply caused by chimney draft

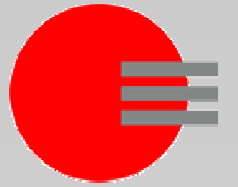




# Wood Pellets

- High calorific value  
4.8-5 kWh /kg
- Usually made from  
sawdust
- No or natural binders
- Low moisture  
content (6 -10%).
- High density.
- Consistent size  
(usually 6 or 8mm).

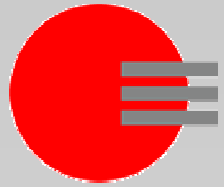




# Pellet Stoves

- Good turn down to 20%
- Wide of range units
- Some self igniting
- Manually fed from bags
- Produce warm air for space heating
- 1/2 Weekly maintenance

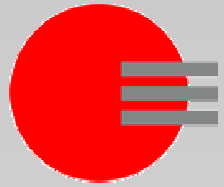




# Pellet Boilers

- Near automatic operation
- Excellent turn down and control
- Weekly to monthly maintenance
- 8-500kW
- Multi-fuel options available

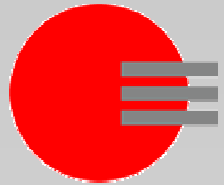




# Storage

- Logs undercover, but open sides
- Pellets need 3 times the storage space of oil
- Pellets 1.5 cubic meters per tonne (4 bed house approx 6 tonnes)
- Woodchip 5 cubic meters per tonne (100kW boiler approx 30 tonnes) – but consider moisture content
- 1:3:9

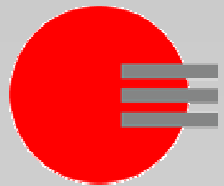




# Capital Costs

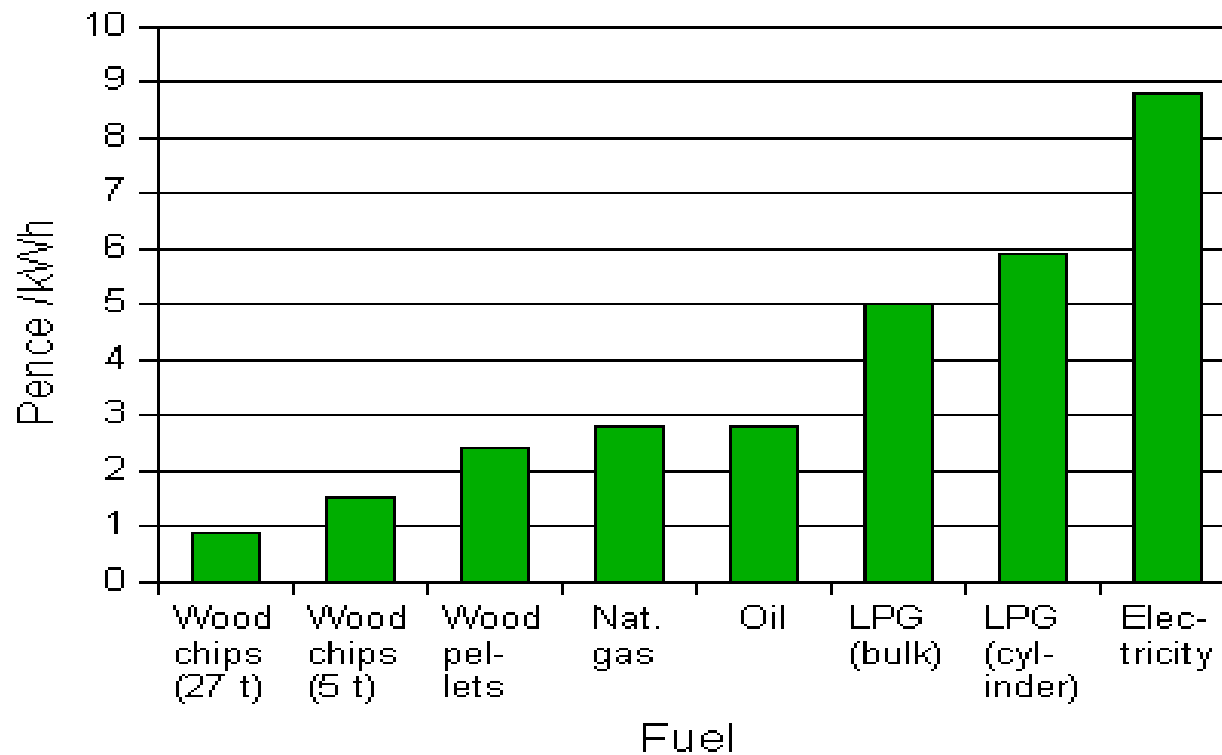
- Log Burner - £400 plus
- Pellet Burner (Stove) - £1500 plus installation - £2,500 to £3,000 installed
- Boiler - depends on size - 20kW householder system £5,000 to £8,000 installed





# Fuel Costs

## Typical domestic prices for fuels



Courtesy Biomass Energy Centre [www.biomassenergycentre.org.uk](http://www.biomassenergycentre.org.uk)

