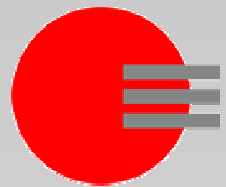


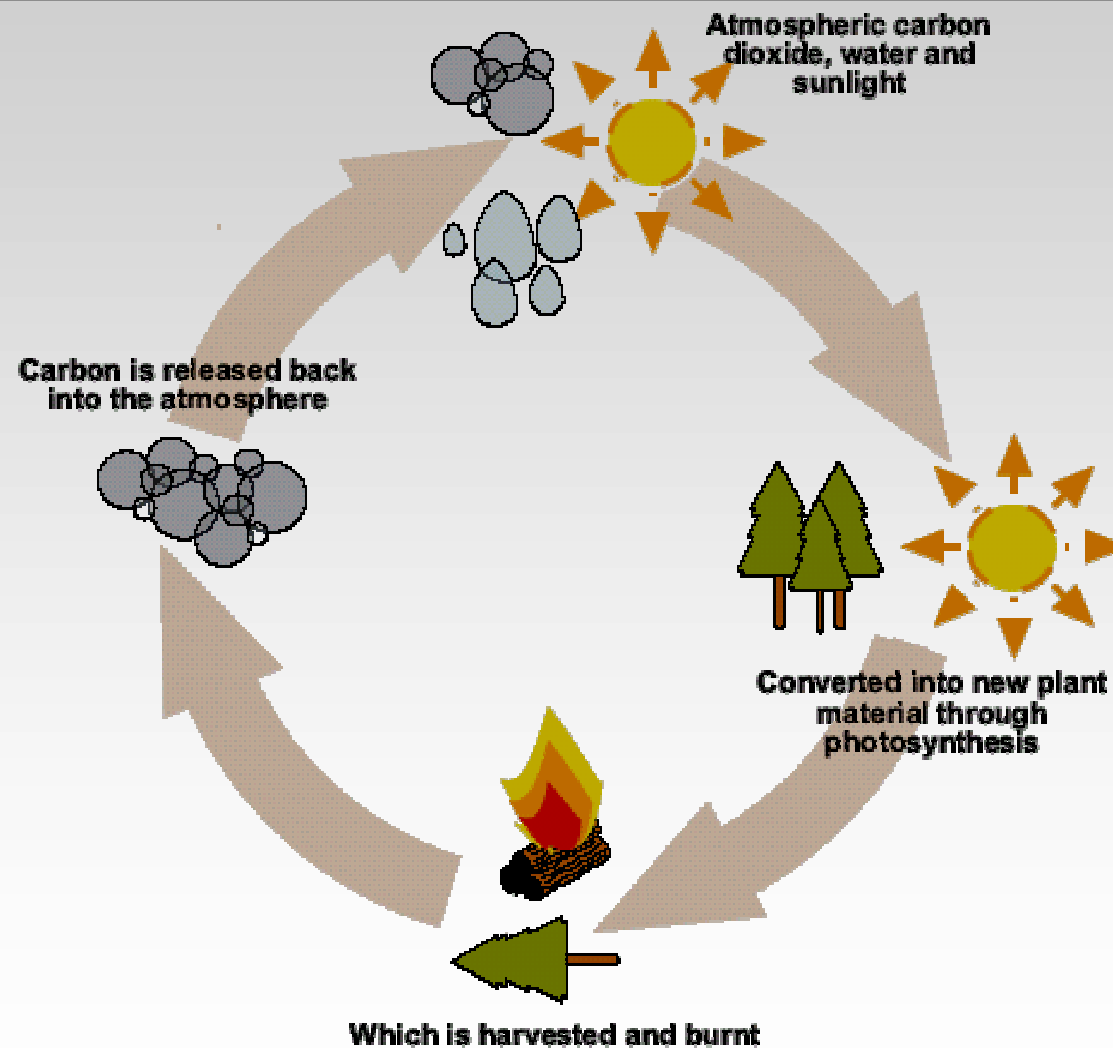
Wood Fuel Heating

Sandra Hayes
Head of Training

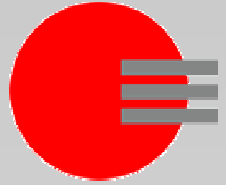




The Carbon Cycle



Source XCO₂



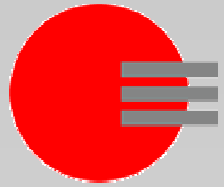
Types of Wood Fuel

- 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

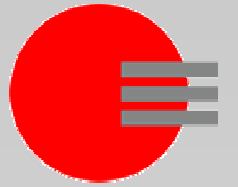




Wood Pellets

- 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).

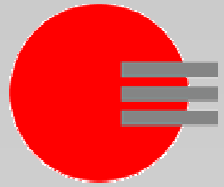




Pellet Stoves

- Good turn down to 20%
- Wide of range units
- Some self igniting
- Manually fed from bags
- Produce warm air for space heating
- ½ Weekly maintenance

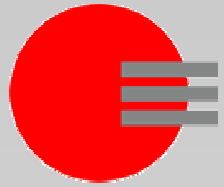




Pellet Boilers

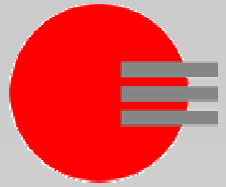
- Near automatic operation
- Excellent turn down and control
- Weekly to monthly maintenance
- 8-500kW
- Multi-fuel options available





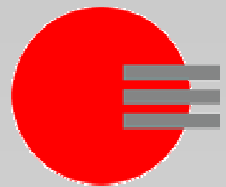
Storage

- 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

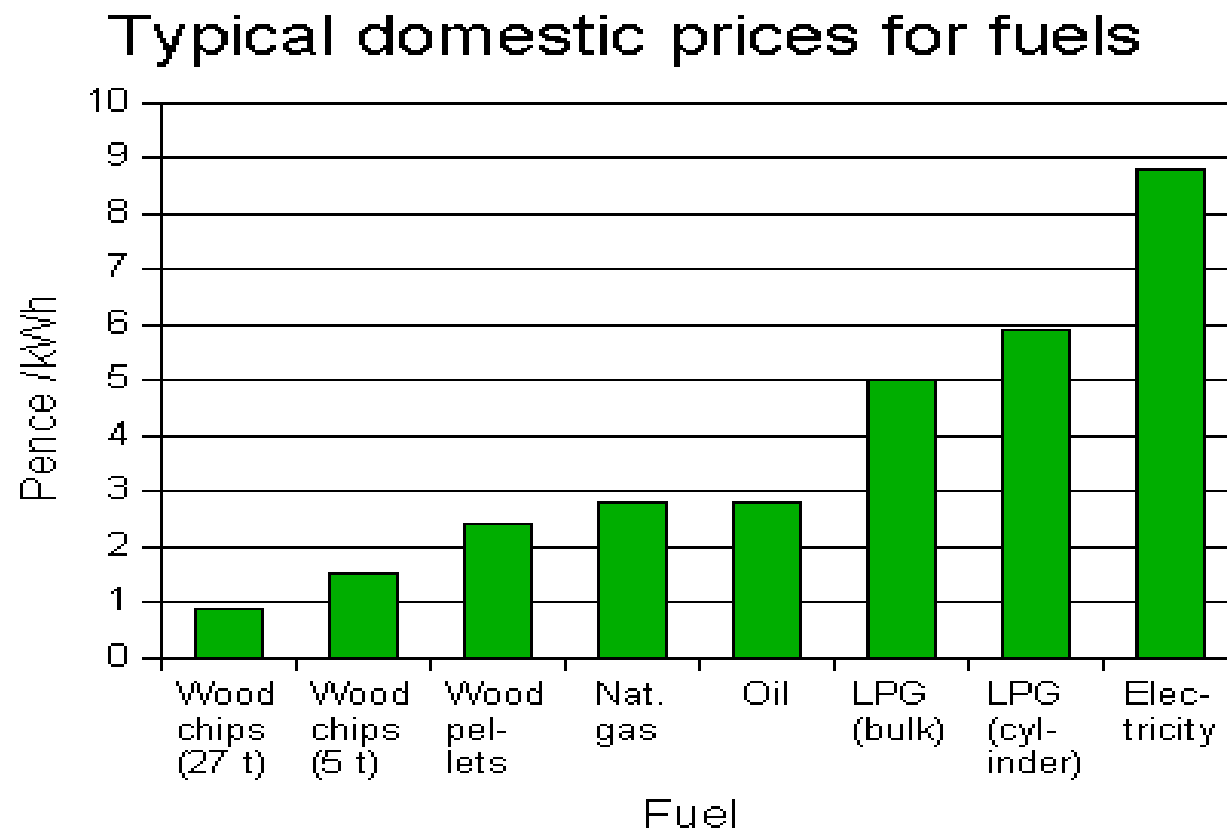


Capital Costs

- 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



Courtesy Biomass Energy Centre www.biomassenergycentre.org.uk