

# GENERAL CHEMICAL AND FUEL PROPERTIES OF A RANGE OF FOSSIL FUELS

UNITED NATIONS (source Lindström 1980)

		Coal	Lignite	Peat	Wood
<b>Chemical composition</b>					
Carbon (C)	weight %	76-87	65-75	50-60	48-55
Hydrogen (H)	weight %	3.5-5.0	4.5-5.5	5-7	6-7
Oxygen (O)	weight %	3-11	20-30	30-40	38-43
Nitrogen (N)	weight %	0.8-1.2	1-2	0.5-2.5	<0.6
Sulphur (S)	weight %	1-3	1-3	0.1-0.4	0.02-0.06
<b>Fuel properties</b>					
Volatile matter	weight %	10-50	50-60	60-70	75-85
Ash	weight %	4-10	6-10	2-15	0.1-2.0
Melting point of ash	°C	1100-1300	1100-1300	1100-1300	1350-1450
Bulk density	kg/m <sup>3</sup>	728-880	650-780	300-400	320-420
Effective calorific value of dry substance	MJ/kg <sup>1</sup>	28-33	20-24	20-23	17-20

<sup>1</sup> 1 MJ/kg = 239 Kcal/kg

1 MJ/kg = 430 Btu/lb