

CONVERSION FACTORS

The data which have been supplied by the countries in original units are converted to the common unit, terajoules (TJ), by using standard conversion factors or, in the case of solids, specific factors, where available, as indicated below.

Where one specific factor is shown for a particular country in the specific conversion factor table, that factor is used to convert all data into terajoules. Where more than one specific factor is shown, production, exports and stock change data are converted into terajoules by using the factor shown in row A; import data are converted by using the factor in row B; and all other data are converted by using the factor listed in row C. The factor in row C is a weighted average of the heat values of the imported and domestically produced fuel. Where no specific factor is listed for a particular country, the standard factor is used to convert all data.

Standard conversion factors for liquid fuels are determined on the basis of the net heating value using average specific gravities for each product.

The conversion of fuelwood (solid volume, 0.333 TCE/m³) is based on an average 20-30% moisture content. When data on the transformation of fuelwood into charcoal are incomplete, estimations assume that it requires 6 cubic metres of fuelwood to produce 1 metric ton of charcoal.

The methodology used for estimating bagasse fuel production (if data not provided by the country) is derived from the work done by the Economic Commission for Latin America and the Caribbean (ECLAC). The methodology selected assumes a yield of 3.26 tons of fuel bagasse of 50% humidity per ton of cane sugar produced. In most cases, cane sugar production data were extracted from the Sugar Yearbook of the International Sugar Organization (London).

For users wishing to convert the data from terajoules (TJ) to other common units: one thousand tons of coal equivalent (1,000 TCE) has traditionally been defined as comprising 29.3076 TJ, and one thousand tons of oil equivalent (1,000 TOE) as 42.6216 TJ. One calorie corresponds to 4.1868 joules and is the amount of energy which will raise the temperature of one gramme of water by one degree Celsius.

STANDARD CONVERSION FACTORS

(Terajoules per thousand metric tons)

Hard coal	29.3076
Brown coal	11.2834
Peat	9.7600
Oil shale	8.9000
Patent fuel (hard coal briquettes)	20.7000
Brown coal briquettes	20.7000
Gas coke	28.2000
Coke-oven coke	28.2000
Peat products	9.7600
Coal tar	28.0000
Conventional crude oil	42.3000
Natural gas liquids	44.2000
Additives and Oxygenates	30.0000
Other hydrocarbons	36.0000
Aviation gasoline	44.3000
Motor gasoline	44.3000
Gasoline-type jet fuel	44.3000
Kerosene-type jet fuel	44.1000
Other kerosene	43.8000
Naphtha	44.5000
White spirit and s.b.p. industrial spirits	40.2000
Fuel oil	40.4000
Gas-diesel oil	43.0000
Lubricants	40.2000
Refinery feedstocks	43.0000
Bitumen (asphalt)	40.2000
Paraffin waxes	40.2000
Petroleum coke	32.5000
Other oil products	40.2000
Liquefied petroleum gas	47.3000
Ethane	46.4000
Refinery gas	49.5000
Natural gas (original unit is TJ)	1.0000
Gasworks gas (original unit is TJ)	1.0000
Coke-oven gas (original unit is TJ)	1.0000
Blast furnace gas (original unit is TJ)	1.0000
Other recovered gases (original unit is TJ)	1.0000
Electricity (million kWh)	3.6000
Fuelwood (10^3m^3)	9.1350
Biogases (original unit is TJ)	1.0000
Bagasse	7.7221
Other vegetal material and residues (original unit is TJ)	1.0000

Animal waste (original unit is TJ)	1.0000
Municipal wastes (original unit is TJ)	1.0000
Industrial wastes (original unit is TJ)	1.0000
Black liquor (original unit is TJ)	1.0000
Biogasoline	26.8000
Biodiesel	36.8000
Other liquid biofuels	27.4000
Charcoal	29.5000
Heat (original unit is TJ)	1.0000

SPECIFIC CONVERSION FACTORS

HARD COAL		2008	2009	2010	2011
Argentina	A	24.702	24.702	24.702	24.702
	B	30.145	30.145	30.145	30.145
	C	29.808	29.901	29.893	29.800
Bangladesh		20.926	20.926	20.926	20.926
Belarus		24.618	24.184	23.249	23.500
Brazil	A	18.600	18.600	18.600	18.600
	B	30.540	30.540	30.540	30.540
	C	26.939	27.091	27.508	27.508
Bulgaria	A	17.006	17.373	17.373	17.373
	B	24.380	25.614	25.579	25.600
	C	24.325	25.503	25.439	25.500
China	A	20.908	20.908	20.908	20.500
	B	20.801	21.212	20.908	17.600
	C	20.907	20.909	20.908	20.360
China, Hong Kong SAR		22.399	22.399	22.400	22.400
Colombia		27.214	27.214	27.214	27.214
Egypt		25.539	25.539	25.539	25.540
Georgia		24.500	24.500	25.000	25.000
India		24.283	24.283	24.283	24.283
Indonesia	A	26.105	26.105	26.105	26.105
	B	26.700	26.700	26.700	26.700
	C	26.105	26.105	26.105	26.105
Kazakhstan		18.581	18.581	18.581	18.581
Kyrgyzstan		18.581	18.581	18.581	18.581
Latvia		26.220	26.220	26.220	26.220
Morocco		27.633	27.633	27.633	27.633
Niger		23.000	23.000	23.000	23.000
Pakistan	A	19.800	19.800	19.800	19.800
	B	29.000	29.100	29.100	29.100
	C	24.901	25.122	24.942	25.000
Peru	A	28.670	28.670	28.670	28.670
	B	27.210	27.210	27.210	27.210
	C	27.463	27.644	27.340	27.500

SPECIFIC CONVERSION FACTORS

HARD COAL (cont.)		2008	2009	2010	2011
Republic of Moldova		18.581	18.581	18.581	18.581
Romania		27.395	27.144	26.844	26.500
Russian Federation	A	25.899	26.061	26.027	26.100
	B	25.164	25.074	25.141	25.400
	C	25.809	25.959	25.946	25.500
Serbia		22.755	22.207	23.060	23.020
South Africa	A	23.662	23.646	23.651	23.645
	B	30.995	30.995	30.995	30.995
	C	23.731	23.704	23.711	23.714
Tajikistan		18.581	18.581	18.581	18.581
Thailand		26.377	26.377	26.377	26.377
Ukraine	A	23.636	23.766	23.556	23.520
	B	25.539	25.539	25.539	25.539
	C	23.973	23.988	23.915	23.830
Uruguay		29.308	29.308	29.308	29.308
Uzbekistan		18.581	18.581	18.581	18.581
Venezuela (Bolivar. Rep.)		29.300	29.300	30.564	30.564
Zambia		24.706	24.706	24.706	24.706
Zimbabwe		26.996	26.996	26.996	26.996

PATENT FUEL (HARD COAL BRIQUETTES)		2008	2009	2010	2011
Ukraine		29.308	29.308	29.308	29.000

BROWN COAL BRIQUETTES		2008	2009	2010	2011
Russian Federation		17.585	17.585	17.585	17.585

LIGNITE/BROWN COAL		2008	2009	2010	2011
Albania		9.843	9.843	9.843	9.843
Bosnia and Herzegovina	A	13.489	13.531	13.342	13.500
	B	13.489	13.531	11.769	12.000
	C	13.489	13.531	13.339	13.490
Bulgaria		6.989	7.008	7.008	7.010

SPECIFIC CONVERSION FACTORS

LIGNITE/BROWN COAL (cont.)		2008	2009	2010	2011
Croatia		17.164	18.000	17.543	17.600
Dem. Ppl. Rep. of Korea		17.585	17.585	17.585	17.585
India		9.672	9.672	9.546	9.546
Indonesia		20.013	20.015	20.015	20.015
Kazakhstan		14.654	14.654	14.654	14.654
Mongolia		9.672	9.672	9.672	9.672
Montenegro	A	9.210	9.210	9.210	9.210
	B	9.890	9.890	9.210	9.210
	C	9.270	9.230	9.210	9.210
Philippines		19.536	19.536	19.536	19.536
Romania	A	7.853	8.090	7.940	7.938
	B	22.591	22.591	22.591	24.603
	C	8.156	8.295	8.280	8.400
Russian Federation		14.918	14.918	14.918	14.918
Serbia	A	8.895	7.973	7.970	7.970
	B	17.150	16.973	16.969	16.969
	C	8.983	8.048	8.046	8.100
Singapore		9.672	9.672	9.672	9.672
Thailand		12.142	12.142	12.142	12.142
Ukraine		14.645	14.654	14.654	14.654

COKE-OVEN COKE		2008	2009	2010	2011
Brazil		30.540	30.540	30.540	30.540
China		28.470	28.470	28.470	28.400
Colombia		20.097	20.097	20.097	20.097
Peru		26.796	26.796	26.796	26.796
South Africa		26.498	26.498	26.498	26.498
Uruguay		28.470	28.470	28.470	28.470

A: Specific factor used to convert production, exports and stock change data from thousand metric tons into terajoules.

B: Specific factor used to convert import data from thousand metric tons into terajoules.

C: Specific factor for all other transactions, calculated as a weighted average of factors A and B.