

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. Production data include the volumetric equivalent of charcoal using a factor of 6 to convert from a weight basis.

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
Lignite	11.2834
Peat	9.5250
Patent fuel (hard coal briquettes)	29.3076
Lignite briquettes	19.6361
Gas coke	26.3768
Coke-oven coke	26.3768
Brown coal coke	19.6361
Crude petroleum	42.3000
Natural gas liquids	45.1923
Aviation gasoline	43.9614
Motor gasoline	43.9614
Natural gasoline	44.8992
Jet fuel	43.1994
Kerosene	43.1994
Naphtha	44.1289
White/industrial spirit	43.2078
Residual fuel oil	41.4996
Gas-diesel oil	42.4960
Lubricants	42.1401
Feedstocks	43.9405
Plant condensate	44.3131
Bitumen (asphalt)	41.8000
Petroleum wax	43.3334
Petroleum coke	36.4000
Other petroleum products	42.4960
Liquefied petroleum gas	45.5440
Refinery gas	41.8760
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
Electricity (million kWh)	3.6000
Fuelwood (10 ³ m ³)	9.1350
Bagasse	7.7221
Other biomass and wastes	8.4000
Vegetal wastes	12.5000
Other non-commercial energy sources	8.4000
Alcohol	27.6300
Biodiesel	37.0000
Charcoal	28.8888

SPECIFIC CONVERSION FACTORS

		2006	2007	2008	2009
HARD COAL					
Argentina	A	24.702	24.702	24.702	24.702
	B	30.135	30.135	30.145	30.145
	C	29.300	29.300	29.808	29.901
Bangladesh		20.926	20.926	20.926	20.926
Belarus		21.787	23.209	24.618	24.184
Brazil	A	18.600	18.600	18.600	18.600
	B	30.540	30.540	30.540	30.540
	C	26.797	26.797	27.121	27.091
Bulgaria	A	19.562	15.245	17.006	17.373
	B	25.096	24.884	24.380	25.614
	C	25.058	24.815	24.325	25.503
Chile	A	16.354	17.904	16.481	23.187
	B	25.116	24.215	24.288	22.323
	C	24.077	23.995	23.618	22.105
China	A	20.908	20.908	20.908	20.929
	B	21.531	21.421	21.421	21.421
	C	20.918	20.918	20.915	20.929
China, Hong Kong SAR		22.399	22.399	22.399	22.399
Colombia		27.214	27.214	27.214	27.214
Egypt		25.539	25.539	25.539	25.539
Georgia		24.500	24.500	24.500	24.500
India		24.283	24.283	24.283	24.283
Indonesia	A	26.100	26.105	26.105	26.105
	B	28.200	28.200	28.700	26.700
	C	26.101	26.106	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
Montenegro		27.214	27.214	27.214	27.214

SPECIFIC CONVERSION FACTORS

HARD COAL (cont.)		2005	2006	2007	2008
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	29.000	29.000	29.100
	C	23.190	23.190	24.901	25.122
Peru	A	28.670	28.670	28.670	28.670
	B	27.210	27.210	27.210	27.210
	C	27.240	27.240	27.463	27.644
Republic of Moldova		18.581	18.581	18.581	18.581
Romania		27.458	27.454	27.395	27.144
Russian Federation	A	25.033	26.461	25.899	26.061
	B	25.029	25.600	25.164	25.074
	C	25.923	25.320	25.809	25.959
Serbia		22.745	22.748	22.755	23.207
Slovenia		26.098	25.934	25.934	23.896
South Africa		22.070	22.070	22.070	22.070
Tajikistan		18.581	18.581	18.581	18.581
Thailand		26.368	26.377	26.377	26.377
Ukraine	A	23.953	23.889	23.636	23.766
	B	25.539	25.539	25.539	25.539
	C	24.172	24.191	23.973	23.988
Uruguay		29.308	29.308	29.308	29.308
Uzbekistan		18.581	18.581	18.581	18.581
Venezuela (Bolivar. Rep.)		29.291	29.300	29.300	29.300
Zambia		24.702	24.706	24.706	24.706
Zimbabwe		26.996	26.996	26.996	26.996

SPECIFIC CONVERSION FACTORS

PATENT FUEL (HARD COAL BRIQUETTES)		2006	2007	2008	2009
Ukraine		29.308	29.308	29.308	29.308

BROWN COAL BRIQUETTES		2006	2007	2008	2009
Russian Federation		17.585	17.585	17.585	17.585

LIGNITE/BROWN COAL		2006	2007	2008	2009
Albania		9.843	9.843	9.843	9.843
Bosnia and Herzegovina		13.524	13.494	13.489	13.531
Bulgaria		7.010	6.973	6.989	7.008
Croatia		17.027	18.412	17.164	18.000
Dem. Ppl. Rep. of Korea		17.585	17.585	17.585	17.585
India		9.672	9.672	9.672	9.672
Indonesia		21.034	20.748	20.015	20.015
Kazakhstan		14.654	14.654	14.654	14.654
Mongolia		9.672	9.672	9.672	9.672
Philippines		19.536	19.536	19.536	19.536
Romania	A	7.857	7.854	7.853	8.090
	B	13.244	14.746	16.832	16.495
	C	8.049	8.276	8.156	8.295

SPECIFIC CONVERSION FACTORS

		2006	2007	2008	2009
LIGNITE/BROWN COAL (cont.)					
Russian Federation		15.914	14.683	14.918	14.918
Serbia	A	8.901	8.896	8.895	7.973
	B	17.132	17.202	17.150	16.973
	C	9.010	9.990	8.984	8.048
Singapore		9.672	9.672	9.672	9.672
Slovenia	A	11.199	11.441	10.975	10.964
	B	19.998	18.517	18.685	18.334
	C	12.166	12.227	12.177	11.720
Thailand		18.418	18.418	18.418	18.418
Ukraine		14.654	14.654	14.654	14.645

		2006	2007	2008	2009
COKE-OVEN COKE					
Brazil		30.540	30.540	30.540	30.540
China		28.470	28.470	28.470	28.470
Colombia		20.097	20.096	20.097	20.097
Peru		26.796	26.796	26.796	26.796
South Africa		27.901	27.498	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.