


[Close window](#)
[Print this page](#)

The conversion factors cover calculation between weight, volume and calorific measures. They provide data for crude oil, products, natural gas, LNG, electricity and solid fuels

Approximate conversion factors

Crude oil*	To				
	tonnes (metric)	kilolitres	barrels	US gallons	tonnes/year
From	Multiply by				
Tonnes (metric)	1	1.165	7.33	307.86	-
Kilolitres	0.8581	1	6.2898	264.17	-
Barrels	0.1364	0.159	1	42	-
US gallons	0.00325	0.0038	0.0238	1	-
Barrels/day	-	-	-	-	49.8

*Based on worldwide average gravity.

Products	To convert			
	barrels to tonnes	tonnes to barrels	kilolitres to tonnes	tonnes to kilolitres
	Multiply by			
LPG	0.086	11.6	0.542	1.844
Gasoline	0.118	8.5	0.740	1.351
Kerosene	0.128	7.8	0.806	1.240
Gas oil/diesel	0.133	7.5	0.839	1.192
Fuel oil	0.149	6.7	0.939	1.065

Natural gas and LNG	To					
	billion cubic metres NG	billion cubic feet NG	million tonnes oil equivalent	million tonnes LNG	trillion British thermal units	million barrels oil equivalent
From	Multiply by					
1 billion cubic metres NG	1	35.3	0.90	0.74	35.7	6.60
1 billion cubic feet NG	0.028	1	0.025	0.021	1.01	0.19
1 million tonnes oil equivalent	1.11	39.2	1	0.82	39.7	7.33
1 million tonnes LNG	1.36	48.0	1.22	1	48.6	8.97
1 trillion British thermal units	0.028	0.99	0.025	0.021	1	0.18
1 million barrels oil equivalent	0.15	5.35	0.14	0.11	5.41	1

Units

1 metric tonne = 2204.62 lb.
 = 1.1023 short tons
 1 kilolitre = 6.2898 barrels
 1 kilolitre = 1 cubic metre
 1 kilocalorie (kcal) = 4.187 kJ = 3.968 Btu
 1 kilojoule (kJ) = 0.239 kcal = 0.948 Btu
 1 British thermal unit (Btu) = 0.252 kcal = 1.055 kJ
 1 kilowatt-hour (kWh) = 860 kcal = 3600 kJ = 3412 Btu

Calorific equivalents

One tonne of oil equivalent equals approximately:

Heat units 10 million kilocalories
 42 gigajoules
 40 million Btu

Solid fuels

	1.5 tonnes of hard coal
	3 tonnes of lignite
Gaseous fuels	See natural gas and LNG table
Electricity	12 megawatt-hours

One million tonnes of oil produces about 4400 gigawatt-hours (=4.4 terawatt hours) of electricity in a modern power station.

1 tonne of ethanol = .57 tonne of oil
1 tonne of biodiesel = .88 tonne of oil
1 barrel of ethanol = .57 barrel of oil
1 barrel of biodiesel = .88 barrel of oil

Other terms

Tonnes: Metric equivalent of tons

[▲ back to top](#)

© 1999-2013 BP p.l.c.