

Barloworld

GHG Conversion factors for 2011, 2012, 2013, 2014 and 2015

(Note: the emission factors for Europe are applied to Russia in all calculations)

Sources:

1) Net Calorific values (GJ/litre): "Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Gas Industry", American Petroleum Institute, 2001 - GHG Protocol - Mobile Guide v1.3 (2005)

2) Emission factors (kg CO₂/GJ): 2010 Guidelines to Defra/Decc GHG Conversion Factors for Company Reporting

Emission factor based on Net Calorific Value (lower heating value)

Unit = GJ	CO ₂ kg CO ₂ eq	CH ₄ kg CO ₂ eq	N ₂ O kg CO ₂ eq	Total Scope 1 kg CO ₂ eq	Indirect Scope 3 kg CO ₂ eq
Diesel	73.90833	0.04167	0.81667	74.76667	14.18056
Petrol	70.075	0.14167	0.47500	70.69167	12.51111
Heavy Oil	68.23333	0.06389	0.28333	68.58056	13.34444
LPG	63.88611	0.02778	0.05000	63.96389	8.00000
CNG/LNG	56.98611	0.08333	0.03333	57.10278	8.35556

Electricity Unit = kWh	CO ₂ kg CO ₂ eq	CH ₄ kg CO ₂ eq	N ₂ O kg CO ₂ eq	Total Scope 1 kg CO ₂ eq	Indirect Scope 3 kg CO ₂ eq
United Kingdom	0.53936	0.00027	0.00321	0.54284	0.07185
South Africa	1.03000	0.00052	0.00613	1.03665	0.12471
Australia	0.91410	0.00046	0.00544	0.92000	0.12000
Europe	0.48388	0.00024	0.00288	0.48700	0.05859
Africa Region	0.73330	0.00036	0.00434	0.73800	0.08878
Middle East & Asia	0.90844	0.00045	0.00541	0.91430	0.10999
United States	0.57460	0.00029	0.00342	0.57831	0.06957

Net Calorific Value UK/Europe/Regions	Net Calorific Value South Africa	Net Calorific Value Australia	Net Calorific Value USA
0.0358 GJ/l	0.0416 GJ/l	0.0386 GJ/l	0.0298 GJ/l
0.0328 GJ/l	0.0339 GJ/l	0.0342 GJ/l	0.0269 GJ/l
0.0394 GJ/l	- GJ/l	- GJ/l	- GJ/l
45.9779 GJ/tonne	49.3848 GJ/tonne	42.9 GJ/tonne	46.607 GJ/tonne
0.0350 GJ/m ³	0.041 GJ/m ³	0.0393 GJ/m ³	0.0366 GJ/m ³

Net Calorific Value	Source Reference
3.6 MJ/kWh	2010 Guidelines to Defra/Decc GHG Conversion Factors for Company Reporting
3.6 MJ/kWh	Eskom Annual Report 2010
3.6 MJ/kWh	Australian Department of Climate Change & Energy, NGA Factors
3.6 MJ/kWh	2010 Guidelines to Defra/Decc GHG Conversion Factors for Company Reporting
3.6 MJ/kWh	2010 Guidelines to Defra/Decc GHG Conversion Factors for Company Reporting
3.6 MJ/kWh	2010 Guidelines to Defra/Decc GHG Conversion Factors for Company Reporting
3.6 MJ/kWh	eia.doe.gov/cneat/electricity/epa/epaxfiles1.pdf