

# Energy conversion factors

The factors given below are taken from Defra's greenhouse gas conversion factors for company reporting, published in September 2016.



Table 1 Energy conversion factors

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Fuel <sup>1</sup>	Units	kgCO <sub>2</sub> e per unit
Grid electricity <sup>2</sup>	kWh	0.41205
Renewable electricity <sup>3</sup>	See footnote 3	See footnote 3
Natural gas	kWh	0.183997
	therms	5.39241
	cubic meters	2.024
LPG	kWh	0.214577
	therms	6.28864
	litres	1.50502
Gas oil	tonnes	3,475.821
	kWh	0.27631
	litres	2.96572
Fuel oil	tonnes	3,225.108
	kWh	0.26782

Fuel <sup>1</sup>	Units	kgCO <sub>2</sub> e per unit
Burning oil	tonnes	3,165.398
	kWh	0.24666
	litres	2.61163
Diesel <sup>4</sup>	tonnes	3,108.5
	kWh	0.24592
	litres	2.61163
Petrol <sup>4</sup>	tonnes	2,993.6
	kWh	0.23324
	litres	2.19697
Industrial coal	tonnes	2,417.464
	kWh	0.32235
Wood pellets <sup>5</sup>	tonnes	55.53515
	kWh	0.01307

<sup>1</sup> Factors given for all fuels are on a gross calorific value (CV) basis, in common with most energy billing.

<sup>2</sup> This figure represents electricity generated (scope 2 under the location-based method). Scope 3 emissions should be reported separately.

<sup>3</sup> For electricity purchased on a 'green tariff', the grid electricity factor above should be used to report under the location-based method of the GHG Protocol Corporate Standard. The Standard requires organisations to also report scope 2 emissions using the market-based method. The relevant factor under this method will be specific to the product supplied by a given electricity supplier.

<sup>4</sup> Standard fuel bought from a local filling station (across the board forecourt fuel typically contains biofuel content).

<sup>5</sup> Conversion factors include the emissions of methane and nitrous oxide that occur during combustion.