Energy Conversion Factors

To report use of Propane gas, convert to Diesel by using these factors	
Liters	Liters of Propane × 0.496 = Liters of Diesel
	500 Liters of Propane × 0.496 = 248 Liters of Diesel
kg	kg of Propane × 0.9236 = Liters of Diesel
	500 kg of Propane × 0.9236 = 461.776 Liters of Diesel
kWh	kWh of Propane × 0.70 = kWh of Diesel
	500 kWh of Propane × 0.70 = 350 kWh of Diesel

To report use of Gasoline/Petrol, convert to Diesel by using these factors	
Liters	Liters of Gasoline × 0.8994 = Liters of Diesel
	500 Liters of Gasoline × 0.8994 = 449.7 Liters of Diesel
kWh	kWh of Gasoline × 1.26 = kWh of Diesel
	500 kWh of Gasoline × 1.26 = 630 kWh of Diesel

Other energy units
1 Btu = 1055,05585 J
1 Btu = 2,93071 × 10^{-4} kWh
1 J = 9,47817 × 10^{-4} Btu
1 J = 2,77778×10^{-7} kWh
1 J = 1×10^{-6} MJ
1 kWh = 3412,1416 Btu
1 kWh = 3600000 J
1 kWh = 0,001 MWh

SYSTEM BOLAGET

Use the factor corresponding to your input unit to convert the energy quantity to kWh

Energy Type	MJ	m^3	kg	Liter
Biodiesel	0,278	N/A	10,70	9,4
Diesel	0,278	N/A	12,20	10,4
Diesel B7, EU average	0,278		12,12	10,33
HVO from rapeseed	0,278		12,2	9,533
HVO marine fuel from rapeseed	0,278		12,2	9,533
Bioethanol	0,278		8,3	6,5
Biogas	0,278	Big variation depending on methane content	Big variation depending on methane content	N/A
Natural gas	0,278	10	13,25	N/A
Steam	0,278	Very big variation depending on pressure	0,71	N/A
Heavy fuel oil	0,278		11,2	10,6
Industrial heating oil	0,278	N/A	11,9	10
Liquefied petroleum gas (LPG)	0,278		13,7	7,4
Wood pellets	0,278	3150	5,1	N/A

SYSTEM BOLAGET

Energy Type	Comments	Source
Biodiesel	9440 MWh/liter. 0.88 kg/liter	Drivmedla.se
Diesel	42-46 MJ/kg. 0.85 kg/liter	World Nuclear Association
Diesel B7, EU average	Assuming 93% Diesel + 7% Biodiesel by volume	
HVO from rapeseed	HVO: 44 MJ/kg	Sikora, M., & Orliński, P. (2024). Hydrotreated vegetable oil fuel within the Fit for 55 package. Combustion Engines, 63(2), 3-8.
HVO marine fuel from rapeseed	HVO: 44 MJ/kg	Sikora, M., & Orliński, P. (2024). Hydrotreated vegetable oil fuel within the Fit for 55 package. Combustion Engines, 63(2), 3-8.
Bioethanol	E100 HHV: 84,530 Btu/gal.	Alternative Fuels Data Center
Biogas	The methane content of biogas typically ranges from 45% to 75% by volume, with most of the remainder being CO2. This variation means that the energy content of biogas can vary; the lower heating value (LHV) is between 16 megajoules per cubic metre (MJ/m3) and 28 MJ/m3.	IEA (2020), Outlook for biogas and biomethane: Prospects for organic growth, IEA, Paris. Licence: CC BY 4.0 IEA
Natural gas	HHV (The energy content of natural gas can be reported in terms of either Lower Heating Value (LHV) or Higher Heating Value (HHV), depending on the context and the country. However, for practical applications such as billing residential and commercial customers for heating purposes, the HHV is often used.)	Drivmedla Drivmedla.se
Steam	Specific enthalpy of steam (kWh/kg) depends on pressure and temperature	ALLEN Career Insitute
Heavy fuel oil	38.3 MJ/liter. 40.4 MJ/kg	Aronietis, R., Sys, C., Van Hassel, E., & Vanelslander, T. (2016). Forecasting port-level demand for LNG as a ship fuel: the case of the port of Antwerp. Journal of Shipping and Trade, 1(1), 2.
Industrial heating oil	36.1 MJ/liter	EngineeringToolBox
Liquefied petroleum gas (LPG)	Assuming density 0.537 kg/liter	EngineeringToolBox
Wood pellets	wood pellets possess the energy output of 18,4 MJ per kilogram	PELLETS-Wood.com

SYSTEM BOLAGET