Version 24- December 2025

Country Specific Net Calorific Values and CO_2 Emission Factors for use in the Annual Installation Emissions Report- 2025

Subject to revision, the following factors may be used for calculating CO_2 emissions for **2025 only**. They are based on Ireland's Specific Emission Factors used in the 2023 National Inventory reported to UNFCCC, unless otherwise stated. Please note that this table may be updated at anytime as new information becomes available. The operator must ensure that the most recent version of this table is used when calculating CO_2 emissions for submission in the verified Annual Installation Emissions Report.

Fuel Factors

Fuel	Emission Factor (t CO_2/TJ)	Oxidation factor
Coal	Site specific	1
Kerosene	71.39	1
HFO/RFO/MFO/LFO	76.01*	1
LPG	63.69	1
Diesel / Gas Oil	73.30	1
Natural Gas	56.62	1
Pet Coke	94.05	1
Crude Oil	Site specific	1
Peat	Site Specific	1
Peat Briquettes	98.86	1
Acetylene* **	70.40	1
Biodiesel HVO	70.83	1

Net Calorific Values

Fuel	NCV (TJ/kt)
Coal	Site specific
Kerosene	44.20
HFO/RFO/MFO/LFO	41.24*
LPG	47.16**
Diesel / Gas Oil	43.31
Natural Gas	Use bills****
Pet Coke	32.09
Crude Oil	Site specific
Peat	Site Specific
Peat Briquettes	18.55
Acetylene* **	48.00
Biodiesel HVO	44.00

*This factor also applies for MFO and LFO. Please note that GO and LFO are different fuels with different calorific values. Gas oil (BS 2869 Class D), LFO (BS 2869 Class E).

** Average density 0.522 kg/l Source: Conversion Factors | SEAI Statistics | SEAI Assumes 70% propane & 30% butane by mass.

***This is a Tier 2 NCV Art. 31 (d) of Implementing Regulation 2018/2066 as amended (MRR) and tier 2 Emission Factor article 31 (c) MRR. NCV based on averaged supplier's data. EF based on stoichiometric ratio.

****Note Gas bills show kWh based on Gross Calorific Value (GCV). **The conversion factor from GCV to NCV may change year to year.**

Reporting of Natural Gas	
Step 1	**Convert to Net Calorific Value** by multiplying by 0.9028 and then **convert to TJ** by multiplying by 3.6 x 10^{-6}. Gas Bills show volume in m^3 corrected to 288.15 Kelvin. The Monitoring and Reporting Regulation requires the annual reporting of standardised (temperature 273.15 K, pressure 101,325 Pa) volume of gas consumed in addition to the net calorific value of the fuel (TJ/Nm^3).
Step 2	**Convert the annual actual gas volume to the standardised gas volume (Nm^3) as follows:** V_s (Nm^3) = (Va*273.15)/288.15 Where Vs is the standardised gas volume and V_a is the actual gas volume determined from the gas bills.(Bills report at standardised pressure of 101,325 Pa, therefore no pressure correction required)
Step 3	**Calculate the net calorific value of the fuel (TJ/Nm^3) as follows:** TJ/Nm^3 = Annual TJ (as calculated above)/Annual standardised gas volume (as calculated above)