Country specific net calorific values and CO_2 emission factors for use in the ETS2 Regulated Entity Annual Emissions Report - 2024

Subject to revision, the following Tier 2a net calorific values and preliminary emissions factors may be used for calculating CO_2 emissions for 2024 only. Please note that this table may be updated at any time as new information becomes available. The Regulated Entity must ensure that the most recent version of this table is used when calculating CO_2 emissions for submission in the ETS2 annual emissions report.

Please note that the Preliminary Emission Factor means the assumed total emission factor of a fuel or material, based on the carbon content of its biomass fraction and its fossil fraction, before multiplying it by the fossil fraction to produce the Emission Factor.

	Net calorific value (TJ/kt; equivalent to GJ/t)	Preliminary emission Factor (t CO_2/TJ)	Density (kg/l)[1]	Comment
Fossil Fuels				
Diesel/Gasoil	43.31	73.30	0.845	Commercial Standard Fuel
Gasoline/Petrol	44.59	69.96	0.741	Commercial Standard Fuel
Kerosene	44.20	71.4	0.800	Commercial Standard Fuel
Jet Kerosene	44.10	71.39	0.800	Commercial Standard Fuel
Fuel Oil	41.24	76.00	0.942	Commercial Standard Fuel
Propane	46.33	64.66		Commercial Standard Fuel
Butane	45.72	66.28		Commercial Standard Fuel
Natural Gas	46.49	56.602		Temporary value
LPG	47.16	63.7	0.522	For Cat A Entities or REs with Low Emissions
Bituminous Coal	27.84	94.60		For Cat A Entities or REs with Low Emissions
Lignite	19.82	101.00		For Cat A Entities or REs with Low Emissions
Pet-coke	32.11	95.826		For Cat A Entities or REs with Low Emissions
Anthracite	27.84	98.30		For Cat A Entities or REs with Low Emissions
Biofuel				
Bioethanol	26.49	71.37	0.800	
Biodiesel ME	37.27	72.16	0.880	
Biodiesel HVO	44.00	70.83	0.846	
Biopropane	46.00	64.51	0.522	
Blended Fuels				
B2	43.18	73.29	0.846	
B5	42.99	73.28	0.847	
B7	42.87	73.27	0.846	
E10	42.65	70.08	0.747	

[1] Regulated Entities must use densities specific to their fuels and confirmed by fuel analysis data for the specific fuel or Material Safety Data Sheets. Where density information is not available, please give the reason in Section D 2a of your Monitoring Plan and use densities provided here.

Following clarifications of the reporting requirements, we have simplified the calculation approach for natural gas.

Reporting of Natural Gas where released fuel amounts are given in energy units.	
Conversion where Gas Networks Ireland provides natural gas consumption data in total energy units (e.g., GWh(gross)).	GWh(gross) → GNI provides information on energy used by final consumers to natural gas suppliers. * 0.9026 → Factor adjusted annually. = GWh(net) * 3.6 → Conversion to TJ. = TJ

Calculation of Emission Factor from the Carbon Content
If the emission factor of a fuel expressed as t CO_2/TJ is to be calculated from the carbon content, the following equation is used with f corresponding to the stoichiometric factor of 3.664 to convert C into CO_2: $$EF = CC \cdot f / NCV$$
If the emission factor of a material or fuel expressed as t CO_2/t is to be calculated from the carbon content (CC), the following equation is used: $$EF = CC \cdot f$$