



FUEL COMPARISON CHART

Fuel Calorific Value Comparison

Compare the Energy Content of Common Industrial Boiler Fuels

The Calorific Value (CV) of a fuel represents the amount of heat energy released during complete combustion. Fuels with higher calorific values generally require less fuel to produce the same amount of steam, though overall boiler performance also depends on combustion efficiency, fuel moisture, ash content, and burner or furnace design.

Note: The values below are typical ranges. Actual calorific values vary depending on fuel quality, moisture content, composition, and supplier.

Fuel	Typical Gross Calorific Value (GCV)	Unit	Typical Moisture	Typical Ash
Natural Gas	8,500–9,500	kcal/Sm ³	Nil	Nil
LPG	11,000–11,800	kcal/kg	Nil	Nil
Furnace Oil (FO)	10,200–10,800	kcal/kg	<0.5%	Negligible
Light Diesel Oil (LDO)	10,200–10,700	kcal/kg	Nil	Negligible
High Speed Diesel (HSD)	10,200–10,800	kcal/kg	Nil	Negligible
Biomass Briquettes	3,800–4,500	kcal/kg	6–10%	2–8%
Wood Pellets	4,000–4,600	kcal/kg	6–10%	<2%
Firewood	2,800–4,000	kcal/kg	20–50%	1–3%
Rice Husk	2,800–3,400	kcal/kg	8–12%	15–20%
Bagasse	1,800–2,500	kcal/kg	45–55%	1–3%
Sawdust	3,600–4,300	kcal/kg	8–15%	<2%
Agro Waste	2,800–4,200	kcal/kg	Varies	Varies

Coal (Indian Non-Coking)	3,500–6,000	kcal/kg	5–12%	20–45%
Imported Coal	5,500–7,000	kcal/kg	5–10%	8–20%
Pet Coke	7,500–8,500	kcal/kg	<1%	<1%

Quick Comparison

Fuel Type	Energy Density	Ash Generation	Environmental Impact
Natural Gas	Excellent	Nil	Very Low
LPG	Excellent	Nil	Low
FO / LDO / HSD	Very High	Very Low	Moderate
Biomass Briquettes	Good	Low	Renewable
Wood Pellets	Good	Very Low	Renewable
Rice Husk	Moderate	High	Renewable
Bagasse	Moderate	Low	Renewable
Coal	Moderate–High	High	High Emissions
Pet Coke	Very High	Very Low	High Sulphur (depending on grade)