

The Farm Management Handbook



Farm
Advisory
Service

Fuel



The UK reference
for farm business
management



Part of Scotland's
Rural College (SRUC)

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Introduction

This section provides information on fuel prices, calorific values, relative costs accounting for efficiency of conversion, costs and regulations for liquid fuel storage.

The last few years have seen fluctuating fuel prices and insecurity in global energy markets. This, together with tackling environmental concerns and improving energy efficiency have put the focus on assessing the best fuel and energy options for the farm. Households, business, and agricultural enterprises are all feeling the ramifications from these variations and fluctuating costs in their energy bills. Energy prices are currently very volatile due to multiple factors, therefore, this section should be used as a rough guide only and farmers should closely monitor trends and changes in prices throughout the year. When comparing different fuels, it is essential to include any losses from conversion to heat as different fuels and technologies differ significantly.

Fuel Prices

The figures provided below represent an average of the prices in summer 2024. These should be used as a guide only and should be supported by actual quotes that take into consideration site specific information. In most cases fuel prices change daily and the price will depend on many factors including the volume purchased, location, length of contract and supply profile.

Energy prices can vary widely across the country, however, higher prices have led to an increase in the amount of fuel poverty in Scotland (defined as any household spending more than 10% of their income on energy). Help with energy bills and advice can be found at:
<https://www.mygov.scot/help-energy-bills>.

Electricity

Electricity prices have reduced over the last year, but remain high and future fluctuations are likely. Electricity prices will vary depending on what part of the country you are in and your type of supply. Given the volatility of energy markets and the current problems they face, it is prudent to shop around for the best deal and to keep abreast of advice from experts, comparison websites and any future government policy interventions. However, ensure that you do not get caught out negatively by exit fees. Also due to the unprecedented increase in wholesale energy costs it may not be the best option to swap suppliers at this time. Standing charges vary widely. For large supplies they are less relevant, however, for small supplies the standing charge will be a much greater proportion of the annual cost.

Gas

Tariff type (piped gas)	unit p/kWh	daily charge	average p/kWh
Credit (domestic)	6.23	38.76	7.17
Debit (domestic)	5.39	29.63	6.12
Pre-pay (domestic)	5.16	31.55	5.92

As discussed previously, gas prices and the energy market are incredibly volatile. These figures should be used as a rough guide only and will vary after time of publishing. We recommend you shop around for the best deal and keep up to date with the latest advice and any potential future developments. Estimates on business tariffs are more complex and difficult to find on comparison sites, therefore suppliers should be contacted directly for current rates.

Propane

	Price
Propane (bulk, not in a long term contract)	59.06 p/litre
Propane (47 kg cylinders)	£88.16 per cylinder
Butane (12 kg cylinders)	£43.16 per cylinder

Diesel oil

	p/litre
Gas oil (red diesel), 35 sec, tractor	69.40
Kerosene, 28 sec, Aga Cookers, etc	70.31
Derv (white diesel)	147.20

Coal

	£/t
House coal (100 x 10kg bags)	497.00

Biomass Fuels

	Price
Firewood - seasoned hardwood logs (delivered)	£201.80/m ³
Firewood - seasoned softwood logs (delivered)	£169.20/m ³
Woodchips (G30, 30% moisture)	£190.00/t
Wood pellets (5 t blown, including delivery)	£310.00/t
Wood pellets (100 x 10kg bags, including delivery)	£400.86/t

Straw

	£/t
Large round bales (ex farm)	70.00

Calorific Values of Fuels

These values are only approximate and may vary quite considerably:

Electricity	3.60 MJ/kWh
Gas	3.60 MJ/kWh
Propane/Butane	50.00 MJ/kg; 25.50 MJ/litre
Gas oil	42.50 MJ/kg; 35.70 MJ/litre
Kerosene	43.50 MJ/kg; 36.64 MJ/litre
Coal	31.40 MJ/kg
Firewood (20% moisture content)	14.71 MJ/kg
Woodchips (30% moisture content)	12.50 MJ/kg
Wood pellets	16.85 MJ/kg
Straw (20% moisture content)	13.80 MJ/kg

Note: 1 tonne liquefied propane gas = 1,957 litres (approx.)
 1 m³ of loose seasoned hardwood timber = 0.35 tonnes (approx.)
 1 m³ of loose seasoned softwood timber = 0.25 tonnes (approx.)

Fuel Cost Values

The fuel cost values have been corrected for efficiencies. (*Relative cost)

	p/MJ *	Efficiency (%)	p/MJ	p/kWh
Electricity	6.36	100	6.36	22.90
Gas	1.70	80	2.12	7.64
Propane (bulk)	2.32	80	2.90	10.42
Propane (47 kg)	3.76	80	4.70	16.91
Butane (12 kg)	7.21	80	9.01	32.43
Gas oil	1.94	70	2.78	10.00
Kerosene	1.92	70	2.74	9.87
Coal (open fire)	1.58	25	6.33	22.79
Firewood (efficient log boiler) ¹	4.60	80	5.75	20.70
Firewood (basic log boiler) ²	3.92	60	6.53	23.52
Woodchips ³	0.96	80	1.20	4.32
Wood pellets (blown)	1.84	85	2.16	7.79
Wood pellets (bagged)	2.38	85	2.80	10.08
Straw (cereal)	0.51	60	0.85	3.04

¹ burning softwood 20% moisture content

² burning hardwood 20% moisture content

³ 30% moisture content

Fuel Storage

Safe storage for fuel on farms, rural businesses and dwellings should be a high priority. Regulation for the storage of fuel is covered by The Water Environment (Miscellaneous) (Scotland) Regulations 2017 and The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended). These regulations are applicable for farms, although there are exclusions. One of the main requirements for new and existing above-ground tanks where there is a storage capacity of 200 litres or more, is the provision of a secondary containment system (bund) of sufficient capacity to contain at least 110% of the largest tank or 25% of the total storage capacity.

For further detail on the regulations, guidance should be sought from your local SEPA office or see:

<https://www.sepa.org.uk/regulations/water/pollution-control/oil-storage-in-scotland/> or refer to NetRegs: <https://www.netregs.org.uk/environmental-topics/materials-fuels-and-equipment/oil-and-fuel-storage>.

Fuel storage tanks come in various types, shapes, and sizes. When choosing your fuel tank, siting should be taken into consideration. Guide prices for storage tanks are shown below and prices will vary depending on manufacturer and specification.

Plastic tanks	Capacity (litres)				
	1200	1500	2000	2500	5000
Single skin	£559	£655	£855	£989	-
Bunded	£1,150	£1,406	£1,695	£1,825	£2,869
Dispensing (bunded)	-	£1,717	-	£2,139	£4,045
Underground	£4,110 (1400 litres)			£4,795 (2500 litres)	

All tank prices are ex VAT and do not include delivery, design or installation charges.