

Monitoring Energy Use



In order to target savings you need to know where energy is being used on the farm and for which tasks and activities.

Information built up from regular record keeping can provide a useful source of data, not only to help you look at ways to reduce energy use and save money on the fuel bill, but also to inform future management decisions in many areas including equipment renewal, systems of work, use of contractors and the viability of individual crops and enterprises.

Making best use of fuel on the farm will not only help to improve farm efficiency but could also help to reduce the farm carbon footprint.

This practical guide looks at how you can record and monitor farm energy and fuel use.

Electricity Use

- Reliance on utility bills for energy data can be misleading. The time period between actual meter readings can be quite long and estimated readings can distort data.
- Utility company meters often include usage across a number of buildings and enterprises. Additional private meters for specific buildings or pieces of equipment can provide invaluable data.
- Keeping a daily, weekly or monthly record (depending on situation) of your meter readings is good practice (see information on spreadsheets overleaf).
- Smart meters are becoming more common. You may already have had one fitted by your energy supplier. If not ask them about getting one. These record half-hourly usage data which can be accessed via the internet.



There are five sets of Practical Guides covering :

Use energy and fuels efficiently

Develop renewable energy

Lock carbon into soils and vegetation

Optimise the application of fertilisers and manures

Optimise livestock management and the storage of manure and slurry

Find further information, including links to other Practical Guides and Case Studies, at

www.farmingforabetterclimate.org



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Websites

www.farmingforabetterclimate.org
www.agrecalc.com
www.gov.uk/guidance/smart-meters-how-they-work

See our data collection spreadsheets in the [Practical Guides](#) section of the website.



Tractor Fuel Use

- Recording vehicle fuel use against specific tasks will allow you to compare performance of different vehicles, implements, crops (and drivers) and help to support future management decisions. This can be as simple as recording on a sheet with a clip board each time a vehicle is refuelled .
- Fuel used in combines, handlers, ATVs and pick ups can be recorded in a similar fashion. In some cases it will be difficult to relate use to a specific task; but even associating usage with a particular vehicle will be of value.
- Modern tractors may have a facility to display and record a huge amount of information which can be downloaded onto a PC. Some will even allow information to be monitored remotely in real time via the internet.
- However the data is collected, the ability to review it at a later date allows management decisions to be made based on the information collected.
- Comparison of fuel usage data over time can also forewarn of maintenance issues affecting efficiency and allow costly breakdowns to be avoided.



Grain Drier Fuel Use

- Grain drying costs can be considerable following a wet harvest. The ability to attribute fuel use to specific crop batches can inform decisions on harvest operations, storage and marketing.
- Keeping a record of fuel use can be as simple as recording tank level or meter reading between batches along with tonnages and moisture content.
- Some modern drier controllers will have a facility to record data which can be downloaded to a PC.
- Accurate data on kWh/tonne x %moisture removed can be used when considering whether to sell grain wet or dry, when looking at drier upgrades or if considering a change to biomass fuel.



Keep your own records - spreadsheet templates

Try our simple spreadsheet templates; you can record on-farm fuel use and identify potential savings. The spreadsheets for electricity, vehicle fuel use and grain drying have been designed so as the front sheet can be printed off and completed in pen, then the data subsequently entered into the spreadsheet to produce meaningful usage data including graphs. The spreadsheets can be found in the [Practical Guides](#) section of our website.