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fact sheet

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Energy Assessments & Management

The process of improving on farm energy use includes an energy assessment which benchmarks and establishes energy saving opportunities. The concept involves 3 types / levels of assessment. The energy user may decide on any level of audit or start with a Level 1 audit and use these results to inform further progression.

Level 1 Audit:

A level 1 audit is the simplest and cheapest form of energy audit and is referred to as a preliminary audit or overview of the whole farm. This involves collating all the energy use data from the farm, including the total fuel (diesel, petrol and other fuels) and the total electricity energy consumed. It is generally expected that these figures will be available from the farm receipts. The total energy uses are then divided by the total farm production (eg, head of cows, bales of cotton, tonnes of wheat) to derive the energy insensitivities of the site. Usually no additional tools are required for this level of audit.

Level 2 Audit:

A level 2 audit is referred to as a standard / general audit and is effectively a desktop study of the energy breakdown or itemised account of energy usage across the farm. A Level 2 audit aims to reach an accuracy of $\pm 20\%$. A Level 2 audit will generally

involve a site visit to discuss energy use and different operations. Energy usage / concerns are noted as well as any other site specific information that could be useful such as electric motor sizes, pumping equipment, tractors and vehicles. Either during the energy audit or through subsequent correspondence with the site representative relevant information is collected to evaluate the total energy usage and production on the site.

Level 3 Audit:

A level 3 audit is a comprehensive study of energy usage on farm. A Level 3 audit provides a detailed analysis of energy usage, the savings that can be made, and the cost of achieving those savings. It may cover the whole site or may concentrate on an individual item, such as a single industrial process or one of the services. Ideally a level 3 audit will focus on where the greatest energy consumption has been previously identified. A level 3 assessment utilises site specific data either gained from on-site testing or through data/records provided by a site representative. A Level 3 audit generally aims to reach an accuracy of $\pm 10\%$. For a Level 3 assessment the auditor follows the same process as a level 2 audit. However, during the first site visit, plans are also made to return and collect site specific values of energy usage. Testing may include simple record keeping or more sophisticated equipment.

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