

The challenge of cutting energy use on organic farms

Researcher Peter How reports from a recent Soil Association conference

It's all rather circular – farms both produce and consume energy. Much recent attention has been focused on farm-sourced biofuels, but a recent Soil Association conference reminded us that farms themselves are major energy consumers. The debate was about the opportunities and challenges for the reduction of energy use on farms.

A Country Land Association presentation drew particular attention to the financial incentives for maintaining and improving efficient use of energy noting a number of areas where practical steps will achieve this. Oliver Harwood (CLA) pointed out, for example, that dirty fans and un-greased bearings burn money straight off the bottom line as they spin against unnecessary resistance. The CLA also take a positive view of biofuels and Oliver discussed various opportunities for energy production including these as well as wind and other renewables.

Bill Basford spoke about energy and farm equipment. He demonstrated that significant savings can be made by getting basics like tyre pressures right; understanding the relevant pressures according to the 'tool' and the task and ensuring that wheel slip is below 15% is one element; keeping servicing up to date is another. He runs courses on farms to ensure that these basics are properly understood, but also motivates workers to understand their responsibility to deliver such elements in practice. Again the farm budget and environment are both beneficiaries of getting energy use right. When Bill pointed out that a typical ploughing means moving 3.5 – 4 t/ha soil eyebrows were raised and the group discussed the potential for accessing and using shallower ploughs. Bill also referred to the important and energy hungry area of grain drying.

Moving on from the farm budget, energy use must be set in a wider context since it is closely associated with greenhouse gas emissions which have global implications and which the UK has binding obligations to reduce. Excellent presentations from Mark Measures and Ulrich Schmutz highlighted some of the key matters such as the effect of the last 50 years of intensification within agriculture, the overall contribution of agriculture to UK emissions, and the approaching point of peak global oil production, estimated at between 2008 and 2020. The concept of ecological foot printing was also introduced, demonstrating the massive demands on the planet that the British, European, and American way of life makes.

In discussing energy-saving opportunities for buildings, Claire Chambers from the Centre for Sustainable Energy talked about the domestic fuel bill, pointing out the short payback periods for ensuring that roof insulation is up to present recommendations, cavity walls are insulated and windows are at least double glazed. Claire has experience working with dairy farmers on farm building energy efficiency.

The recent Organic Research Centre Briefing Note, 'Why Beyond Organics?' is a call to take global demands on limited global resources seriously. The recognition of the

valuable contribution local living and trading can make is characteristic of people and communities who understand their global context. Iain Tolhurst demonstrated this through his presentation where he explained some of his story of building Tolhurst Organic Produce - a horticultural enterprise that sells through neighbourhood representatives. Large amounts of hedgerow, seven year rotations, and vegetation providing winter soil cover are aspects of his agronomic system. Very low food miles and carbon footprint indicate high achievement of ecological goals and the whole system is underpinned by the community that forms the market and the importance of local trading.

An increasing amount of work is being done to develop and refine tools for auditing farm energy use as a tool in improving efficiency and it was clear through the discussion at this conference that energy's close relationship with the farm economy as well as emissions and ecology and landscape mean that these need to be considered together.

With the many opportunities for improving efficiency of energy use on farms highlighted at the conference and the significant contribution this could make to farm profits it was disappointing to see so few producers represented. No doubt there will be growing interest as farmers increasingly recognise the contribution they can make to the broader matters of a world living with challenged resources.

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