

ENERGY AUDIT

Energy is an everyday necessity that is likely to continue increasing in cost. There are many on-farm initiatives that can help to reduce energy consumption and cost through good management before any large scale investments. It is important to keep records of how much energy you are using and their costs: if you don't measure it you cannot manage it. An energy audit coupled with good records can help to identify opportunities to change current practice or identify areas where simple changes, upgrades, timings or investment can help to improve business performance. The resources provided below allow you to carry out a basic energy audit yourself, which is particularly useful if you can identify issues from the checklist and from "benchmarking" your activities against your peers to see how you compare against others. Ongoing measurement is crucial.

Energy Efficiency:

Your proposal should result in a measurable reduction in energy consumption, which will lead to an improvement in business performance, and improved profitability. To give your application for support the best chance of success you should submit an energy audit with your application.

Initiatives:

On most farms savings of 10-29% of energy costs could be achieved relatively easily, often with minimal capital outlay.

Even systems which were efficient when installed a few years ago may be costing more than necessary because their use pattern has altered, or perhaps because a new generation of equipment is inherently more efficient.

Applications will be assessed on the following criteria:

Priority Actions (Priority 1 being better than Priority 3):

Priority 1	= Low cost actions	– payback less than a year
Priority 2	= Medium cost actions	– payback more than year but less than three years.
Priority 3	= High cost actions	– payback in excess of three years.

Where the item of expenditure is part of a larger project costing in excess £15,000 then a completed energy audit will ensure that your application will have the best chance of approval. Although not compulsory, failure to submit an energy audit with a £15,000 plus project will see its priority status reduce by one (i.e. a project that would have been a priority 2 will be downgraded to a priority 3).

Further information and examples of energy audits can be sourced from the following links:

<https://dairy.ahdb.org.uk/technical-information/business-management/energy-cost-calculators/introduction/>

http://www.farmingfutures.org.uk/sites/default/files/casestudy/pdf/FF_FS23_Energy%20efficiency.pdf

http://www.morrisons.co.uk/Global/0_FarmingPage/Energy%20Efficiency%20Options%20for%20UK%20Dairy%20Farms.pdf

<http://www.calu.bangor.ac.uk/Technical%20leaflets/Energyauditmanual.pdf>

Other examples are available and may be utilised.

Project Analysis Guidance:

Column	Description
1	Action planned or item to be purchased
2	Is the action to be a refurbishment/improvement of existing building/plant/infrastructure or is it a new build/item?
3	If the planned action is to take place in an existing/new building what period of use can be expected from the building and what is the life expectancy of the intended action/item?
4	What is the current energy utilisation? kWh.
5	What is the current annual operation cost of the plant/item to be replaced installed?
6	What is the cost of the action/plant excluding Grant and VAT?
7	What are the estimated savings from taking action? If no figure is available or where a range of typical savings is provided, the lower figure shall be taken as the typical energy saving unless sufficient appropriate, credible alternative sources of information can be provided to support a higher figure.
8	How much kWh will be saved from the item/project?
9	The value of the savings.
10	Payback period of the action.

Project Analysis:

1	2	3		4	5	6	7	8	9	10
Action to be implemented	New build or refurb to existing	Expected life		Current kWh utilised	Current annual cost	Cost of action*	Estimated savings from taking action	kWh saved	Actual value of savings	Calculated payback period (yrs)
		Building	Item		A£	B£	C%		A£ x C% = D£	B£/D£
<i>Example- Purchase plate cooler</i>	<i>Existing</i>	<i>20</i>	<i>10</i>		<i>5,000</i>	<i>3,200</i>	<i>50</i>		<i>1,600</i>	<i>2</i>