

AGRICULTURE GUIDE TO RENEWABLE ENERGY



WHY SHOULD AGRICULTURE INVEST IN RENEWABLE ENERGY?

Energy usage has a significant impact on the operational costs of any business. For agriculture in particular, competition from abroad is fierce and British farmers and landowners need to keep their businesses as sustainable as possible. By investing in renewable energy, farmers can manage their energy consumption and cut the cost of utility bills to keep their businesses as profitable as possible.

Renewable energy is a long-term solution that reduces dependency on the depleting supply of fossil fuels, whilst also reducing carbon dioxide emission levels.

UK TARGET TO PRODUCE 15% OF ENERGY FROM RENEWABLE TECHNOLOGIES BY 2020

This target, set by the government, supports the Renewables Directive (officially titled 2009/28/EC); a European Union directive published in April 2009 which mandates levels of renewable energy generation among member states.

Farmers and landowners, as we all do, have a responsibility to help reduce greenhouse gas emissions and tackle climate change. Farmers investing in low carbon energy solutions can not only help the government meet the European Union obligation, but they also have the opportunity to generate a secure long term stream of revenue too.

WHY RENEWABLE ENERGY?

- HIGH YIELD
- BE GREEN
- REDUCE ENERGY BILLS
- REDUCE CARBON FOOTPRINT
- HIGH RETURN ON INVESTMENT
- LOW COST
- LESS TAX

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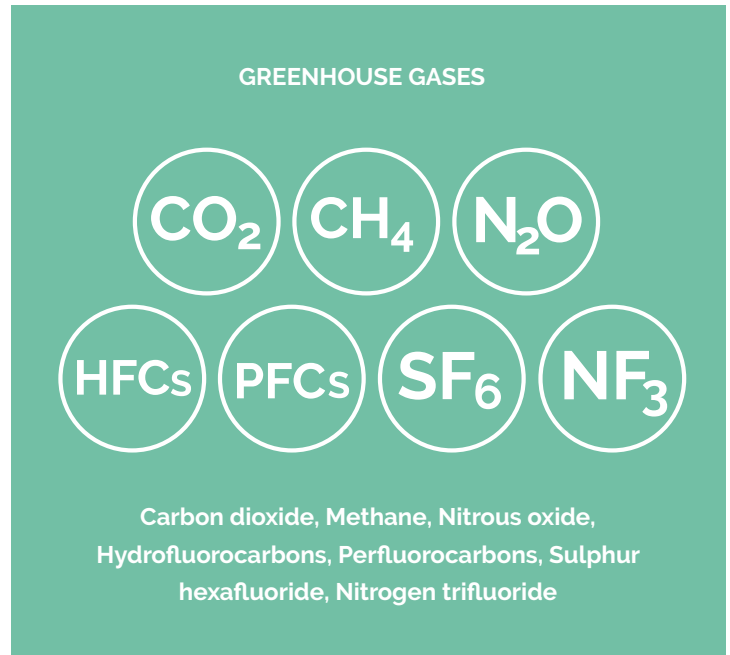
UNDERSTANDING YOUR CARBON FOOTPRINT

Farms have a carbon footprint just like every other business, and it is determined by the total greenhouse gas emissions released into the atmosphere by their activities. In line with an international treaty, known as the **Kyoto Protocol**, countries including the UK are legally bound to reduce their level of greenhouse gas emissions.

By burning fossil fuels to generate electricity, the process emits three greenhouse gases (carbon dioxide, methane and nitrous oxide), the most prevalent being carbon dioxide.

The amount of energy a working farm uses is the largest contributor to its carbon footprint, with every kWh of coal derived electricity consumed emitting approximately half a kilogram of carbon dioxide into the atmosphere.

By using renewable energy, agriculture can save tonnes of greenhouse gas emissions every year.



There are seven main Greenhouse Gases (GHGs) that make up a business' carbon footprint.

FARMING AND RENEWABLE ENERGY: A WINNING COMBINATION

High energy costs threaten profit margins. Energy intensive poultry and dairy farms, and farms which require specialist equipment to operate turn to renewables to generate their own energy. Solar energy in particular is a good fit for farms looking to enhance their green credentials and lower their running costs.

Around a tenth of greenhouse gas emissions in the UK can be attributed to agriculture. The industry relies heavily on fossil fuels, so reducing emissions is another factor driving renewable energy adoption.

RENEWABLE ENERGY PROVIDES A SECONDARY INCOME FOR AGRICULTURE

The key to modern farming is diversifying to boost business. Investment in renewables can be a profitable addition for the agriculture industry, providing a valuable secondary income throughout the year.

Farmers and landowners do well to harness the free energy of the wind and the sun. Utilising land and roof space, wind and solar energy have seen the biggest uptake, with both technologies proving to be popular within the farming community. Other renewable energy solutions favoured include biomass, ground source heat pumps and anaerobic digestion.



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ELEMENTS OF YOUR ENERGY COSTS

Understanding your energy bill can help you to manage your energy consumption. Wholesale costs make up the largest portion of energy bills and prices are changeable. Business energy bills are made up of the following elements:

- 1 Wholesale or base cost for electricity
(which can be variable throughout the day)
- 2 Supplier cost to deliver energy
- 3 Infrastructure and distribution costs
- 4 Carbon taxes
- 5 VAT

MAKE MONEY BY GENERATING RENEWABLE ENERGY

Renewable energy technologies will lower your energy bills and help reduce your carbon footprint. But did you know that you can also get paid for the renewable energy your business generates?

The government has established financial incentive schemes called the **Feed-in Tariff** and **Non-Domestic Renewable Heat Incentive** and will pay you for every kWh of renewable electricity and heat energy you produce.

If your farm generates more energy than it uses, you can boost your profitability by selling excess energy back to the national grid.

RENEWABLES POWERING OVER 40% OF UK FARMS

Renewable energy investment and its associated income stream is helping shape the future of farming. Around 40% of UK farms have already invested in renewable energy solutions. Without renewable energy, next generation farms may struggle to be financially viable.

Solar energy remains the best investment for agriculture. According to the National Farmers Union (NFU), installing solar panels on unutilised rooftops is an excellent low-risk investment for UK farms faced with substantial electricity bills. [Read more here.](#)

