

Farming for a Better Climate



Glenkilrie



Name	David & Morag Houstoun
Farm	Glenkilrie
Locality	Blacklunans
Type	Beef & Sheep
Size	1,000 ha
Staff	1 full time

David and Morag Houstoun own Glenkilrie, located some 12 miles North of Blairgowrie.

Glenkilrie is an upland beef and sheep farm over 1,000 hectares, of which 27 ha is forestry, 770 ha is hill/rough grazing and the remainder is in-bye.

The business carries 140 suckler cows, half spring and half autumn calving, with calves sold as stores and 1000 ewes divided into two flocks, one blackfaced and one crossbred with all lambs sold finished.

David and Morag worked with *Farming for a Better Climate* as a volunteer Climate Change Focus Farm 2010 -2013; their results are covered in a separate case study.

How might Climate Change affect Glenkilrie?

The prospect of Climate Change bringing a warmer climate during the summer in Scotland is not a bad one, but wetter winters and more extreme weather events could have a major impact on the farming system at Glenkilrie.

The winter housing period for cattle is already 200 days; cattle are taken off grassland in autumn due to risk of poaching rather than cold weather. Extended wetter conditions could mean a longer housing period, which could also include sheep.

Storage of manure and slurries could become an issue if conditions did not allow machinery on the land during the winter months. New slurry

storage comes at an additional substantial cost to the business.

A longer housing period could lead to increased requirements for conserved forage such as silage and hay, again bringing a cost to the business. Extra land used for making additional forage means less land would be available for grazing.

A warmer summer period may well increase grass production at Glenkilrie; it would need to be considerably drier than present before drought conditions are likely.

Looking ahead, increased costs associated with longer winters could make the business less competitive in the production of beef and lamb.

Case Study

Find out what other farmers are doing to improve profitability and adapt to a changing climate in our series of case studies.

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

Funded by the Scottish Government as part of their Climate Change Advisory Activity

Websites

www.farmingforabetterclimate.org

www.scotland.gov.uk/

www.planet4farmers.co.uk/

www.scotland.gov.uk

www.ipcc.ch

www.agrecalc.com

www.fertbench.com



Glenkilrie



"We have not made any significant changes to the way we farm at Glenkilrie but we have made quite a few small changes which save a little money here and there. Taken altogether these changes could make a difference to the performance of the business with the added benefit of reducing the carbon footprint."
David Houstoun.

Funding and Support

Measures put in place at Glenkilrie have had to be practical and either no-cost or the projected benefits to the business outweigh initial investment, i.e. spending money on lime to improve the productivity of the grassland.

Reducing carbon emissions can save money for your business.

Need more information?

To find out which efficiency measures benefitted the farm, see the *'Improving Farm Efficiency; Findings from Glenkilrie'* case study.

To keep up to date with the latest farms in the initiative and for more practical and low cost efficiency measures, visit www.farmingforabetterclimate.org and register for our free e-newsletter by emailing climatechange@sac.co.uk

Energy and Fuel

An energy audit carried out at Glenkilrie highlighted the following -

- Main energy usage is fuel use through farm machinery
- Low demand for electricity on-farm (lighting and occasional use of power tools)
- Farmhouse / Bed & Breakfast uses large amount of heating oil for heating and cooking.

Replacing the use of heating oil in the farmhouse would be beneficial in terms of both reducing carbon emissions and financial savings.

A feasibility study looked at the viability of using a wood-fired heating system in the farmhouse under the Renewable Heat Incentive (RHI) Scheme. This would be a good option on Glenkilrie, given that the system could run on home-grown timber. As Glenkilrie doesn't qualify for the non-domestic RHI scheme, David is awaiting the launch of the domestic scheme.

Sheep Management

During a discussion group meeting on the farm, SAC sheep specialist John Vipond set David a challenge to make better use of the high quality silage which had been produced. With a pit silage analysis of ME at 11.4 MJ/kgDM, a D Value of 71% and protein content of 13.8%, David was able to take full account of the nutrition in the silage. As a result of knowing the feed value of the pit silage, David began feeding concentrates to his 1042 ewes two weeks later than usual and fed less feed for the remaining six weeks. The result was a total reduction in concentrates fed pre-lambing of 13.5 tonnes. This is a saving of just under £3,000 and 4.84 tonnes of carbon with no loss of production.

Renewables

Assessing the potential for renewables at Glenkilrie highlighted that there could be scope for a small scale (13kW) hydro scheme and various sizes of wind turbines. However, anemometer readings showed the average wind speed was lower than predicted.

Fertilisers and Manures

The majority of the phosphate and potash is utilised on the land on which it is spread. Much of the grassland has a good clover content, providing an additional source of nitrogen.

All soils on the farm have been sampled. The business has invested fairly heavily in rectifying pH deficiencies as well as any deficiency in phosphate and potash. By remedying these shortfalls it is hoped to improve the performance of the grass and particularly the clover.

Current storage capacity means some slurry does have to be spread during the winter months when ground and weather conditions allow. This isn't ideal in terms of making the best use of nutrients, but cost to install additional storage at Glenkilrie is prohibitive at this time.

Cattle Management

The biggest change made in the cattle enterprise was to move to calving heifers by the age of two instead of three years of age. The first batch of heifers have been calved successfully.

Straw bedding is a major cost to the business; David is looking into the use of recycled wood materials as a possible alternative.