

## Dairying in South-West Scotland



<b>Name</b>	Ross and Lee Paton
<b>Farm</b>	Torr Farm
<b>Locality</b>	Auchencairn
<b>Farm Type</b>	Dairy
<b>Size</b>	389ha
<b>Staff</b>	2 full time, 1 apprentice

### Background

Brother and sister team Ross and Lee Paton manage Torr Farm, a 389 ha organic dairy farm on the Solway coast about 20 miles west of Dumfries. The business has 170 dairy cows, mainly Holstein-Friesian and Montbelliarde, along with a few Ayrshire and Norwegian Red.

The business retains all of the offspring from the dairy herd, either for breeding or for finishing.

Of the land area approximately 30 ha are woodland, 45 ha are rough grazing and 80 ha are used for growing cereals, namely arable silage, spring barley and winter wheat. The remaining land is laid to grass for grazing and silage.

### How might Climate Change affect Torr Farm ?

As a result of Climate Change the Scottish climate is predicted to become warmer, especially in the summer and wetter in the winter. There could also be more extreme weather events such as storms, floods and heatwaves. These extremes of weather are the main concerns for Torr as it is a low lying coastal farm with mainly heavy soils.

Floods coinciding with sowing, silage time and harvesting will jeopardise the production of good quality home grown fodder which is critical for Torr. Wetter soils will also reduce the opportunities for grazing, possibly resulting in the cattle having to be housed for longer. Downpours at harvest time will also increase the business's drying costs.

On the other extreme heatwaves during the summer may reduce both crop and grass yields due to drought stress, especially on lighter soils around the farm. This would result in Torr having to purchase in extra concentrates to compensate for the potential reduction in yields. Summer heatwaves will increase the likelihood of heat stress, to minimise this Torr may have to provide increased ventilation in the sheds.

As an organic farm the threat of new or more aggressive pests and diseases in crops is also a concern.

Examples of what Torr has already done and is planning to do to reduce greenhouse gas emissions can be found on the following page.

### Case Study

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 Case Studies and Practical Guides, at

[www.sac.ac.uk/climatechange/farmingforabetterclimate](http://www.sac.ac.uk/climatechange/farmingforabetterclimate)

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

### websites

- [www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org)
- [www.sac.ac.uk/climatechange](http://www.sac.ac.uk/climatechange)
- [www.farmingfutures.org.uk](http://www.farmingfutures.org.uk)
- [www.bbc.co.uk/climate](http://www.bbc.co.uk/climate)
- [www.soilassociation.org](http://www.soilassociation.org)
- [www.dairyco.org.uk](http://www.dairyco.org.uk)
- [www.scotland.gov.uk](http://www.scotland.gov.uk)
- [www.ipcc.ch](http://www.ipcc.ch)
- [www.carbontrust.co.uk](http://www.carbontrust.co.uk)
- [www.sepa.org.uk](http://www.sepa.org.uk)

## Case Study



Dairy Cows at Torr

*“As an organic farm we show an interest in improving our environmental impact, however we are far from perfect when it comes to energy use. Being selected as one of the focus farms under the Farming for a Better Climate initiative is a great opportunity for us. It is a fascinating programme to be involved in and we are looking forwards to identifying further improvement to our farming practices.”* Ross Paton.

### Funding and Support

Undertaking a whole farm carbon budget will form the basis to develop strategies for reducing greenhouse gas emissions.

In addition to a carbon budget, a whole farm energy audit provides a very useful starting point for assessing and benchmarking fuel and electricity use and can highlight opportunities for cash savings.

The Scottish Rural Development Programme (SRDP) can provide financial assistance for capital and land based projects that could reduce greenhouse gas emissions from the farm and save businesses money.

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## Energy and Fuel

- A whole farm energy audit has been undertaken.
- Farm staff have been keeping a record of diesel used i.e. how much and what it was used for.
- Close attention is given to vehicle and tractor maintenance to ensure they run efficiently.
- A smart meter has been fitted, this allows electricity use to be monitored on a half-hourly basis via the internet.
- Consideration is being given to replacing the existing milk plate cooler. Replacing it with a larger plate cooler will have the potential to make considerable energy savings.

## Fertilisers and Manures

- As an organic farm Torr pays close attention to making the best use of the nutrients contained in the slurry and FYM that is produced.
- The slurry is analysed at least once a year to determine its nutrient status.
- All the fields on the farm have had their P, K, Mg and pH levels analysed. This information is currently being entered into PLANET to provide a nutrient management plan for each field.
- A new slurry store will be erected this summer, providing the business with at least 6 months storage.
- Red clover is incorporated into some of the silage fields; white clover is always included in all other grass seed mixes.

## Renewables

- Torr is keen to explore the feasibility of a wind turbine and a micro-hydro scheme.
- AD and biomass are unlikely to be feasible at Torr.

## Locking up Carbon

- Torr has 30 ha of existing woodland.
- 5 ha of native woodland will be planted in 2011 and managed thereafter.
- Management of the existing woodlands is currently being considered.
- There is approximately 45 ha of rough grazing that is never ploughed. This land is also protected from over grazing.
- The straw is baled and is used for bedding the livestock, all the FYM produced is applied back to the land at a later date.
- Bare soils are not left over winter therefore reducing risks of soil erosion.

## Livestock Management

- Milk production efficiency is monitored closely i.e. genetics, feeding and animal health.
- Regular visits from a Dairy Specialist are undertaken and their advice is implemented.
- A health plan is drawn up annually and is regularly reviewed. The high health status of the livestock ensures improved productivity.