# Case Study 3 Farm waste into fertiliser

The idea

Dairy farms produce a lot of waste material, from sawdust for bedding animals over winter, to cow pats from the cows themselves. Many farms spread cow manure over their fields to fertilise the soil and encourage regrowth of grass after winter to feed their cows over the summer. By setting up a biogas plant on their farm, the Bowhill estate is planning to use this cow muck and sawdust to produce biogas and an improved fertiliser.

## How does it work?

1. Cows living in sheds produce waste (called slurry), which is then collected up and added into the biogas digester tank.
2. The slurry is then heated to 50OC to help the bacteria to produce biogas over the next 60 days.
3. The biogas is used to generate electricity. Some of this electricity is used to power the biogas plant, and the rest is sold back to the national grid, and is distributed to homes in the local area.
4. The slurry is then passed into a second digester where it spends 100 days decomposing into a rich, odour-free fertiliser.
5. The fertiliser is spread on the estate’s fields, encouraging the crops to grow stronger and faster, which provides better food for the cows.

## Graphics Staff Folder:Work files:2018 Work Files:08-2018 August:SP Climate Change Digital:cows.jpg

## Facts

Feedstock – cow manure and sawdust

Power – 200 kilowatts of electricity/day and fertiliser

## Find out more

You can find videos and more information on www.buccleuch.com/energy/innovative-ad-plant-at-bowhill-estate/, the website for the project.