your green business opportunity

Case Study 09 Simon Howie

Simon Howie's meat processing factory in Dunning, Perthshire has an innovative waste treatment solution which is a cheaper option than more conventional approaches and is good for the environment.

Bringing change to life

Central Scotland Green Network

Business Benefits

- Treatment system has low capital costs with an attractive pay-back period.
- Can cope with effluent peaks much easier than traditional tanker-based outsourcing and costs do not fluctuate in response to fuel prices.
- Virtually no maintenance is required - only occasional pruning and weeding.

Wider Benefits

- New woodland and wetland created providing habitats for invertebrates including dragonflies and moths and also for birds like warblers and thrushes.
- Fewer effluent tankers using the road network means lower CO_2 and other harmful gas emissions.

Recognition

Recognised by Sustainable Food and Drink Scotland's Green Club as an example of best practice in sustainable food production.

Context

The company has been operating since 2002 and employs around 120 people. The factory, which mainly processes beef and pork products, is located in Dunning, Perthshire. Around 60% of produce goes to major supermarkets and the remaining 40% to the catering industry - mainly premium hotels.

As there are no mains sewage pipes on site, a number of septic tanks were used to treat the meat processing waste and outflow from the staff toilets. This waste was periodically removed by lorry to be processed 55 miles away in Hamilton. This system became unsustainable during 2007 when rapid expansion of the business occurred and the volume of waste material increased substantially and the business found it difficult to meet SEPA discharge targets.

Choosing Innovation

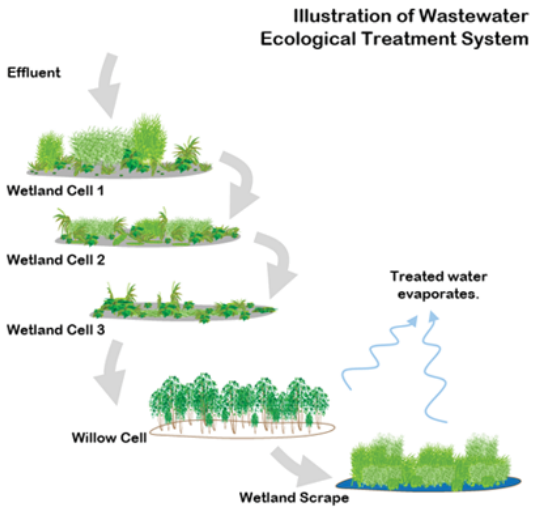
Ecological Treatment Systems or ETS are ecological alternatives to conventional wastewater treatment systems. Conventional systems use tankers to take the waste material off site to a processing plant which typically relies on a combination of mechanical action and/or bacterial processes to breakdown and reduce wastewater contamination.

Ecological systems on the other hand, such as the one installed at the site, create habitats that support complex food webs between a wide range of fauna (bacteria, micro-organisms, invertebrates and fungi) and flora (plants) to clean wastewater. As the diagram above shows, effluent is taken directly from the factory and gradually allowed to seep through six different wetland 'cells' (each supporting its own habitat) becoming progressively cleaner.

Lastly, a willow soakaway removes nutrients not absorbed by the wetland cells and reduces the volume of water through evaporation and evapotranspiration. Any water not absorbed or evaporated in the willow cell flows into a wetland scrape, the final cell in the system, where the more open environment and vegetation further maximise opportunities for evaporation and evapotranspiration.

Having taken into consideration other solutions, Simon Howie Foods chose an ETS due to its:

- low capital and operational costs
- attractive payback period
- ability to complement the existing treatment system
- flexibility to cope with planned expansion and effluent peaks
- supports a wide variety of flora & fauna.



The Payback

The installation of the works cost in the region of £28,000. It is estimated that this paid for itself within two years of completion and when the company expands further - producing more waste material, even greater savings will be achieved due to increased costs of sewerage charges and transport removal.

Key customers, including major supermarkets, are increasingly concerned about their suppliers' carbon footprints and value Simon Howie's commitment to reducing CO_2.

Better Biodiversity

By ensuring provision of the correct balance & mixture of flora & fauna it is possible to support a more complex food web and this, in turn, allows greater efficiency, effectiveness and flexibility of the treatment system.

Plants and species introduced through the implementation of the system include sedges, willows, and rushes. Invertebrates which could benefit from the introduction of these plants include dragonflies, damselflies, butterflies and day-flying moths. The habitat created also encourages bird life such as Thrushes, Reed Bunting and the threatened Grass Hopper Warbler.

Reducing CO_2

By installing the new system, nearly 5,000 miles of lorry journeys will not need to be made. This saves something in the region of 10 tonnes of CO_2 per year and removes at least 42 journeys from travelling up and down the A9.

"Not only has the treatment system worked out cheaper than conventional options, it's also more sustainable and in line with our aspirations to make the factory as environmentally friendly as possible."

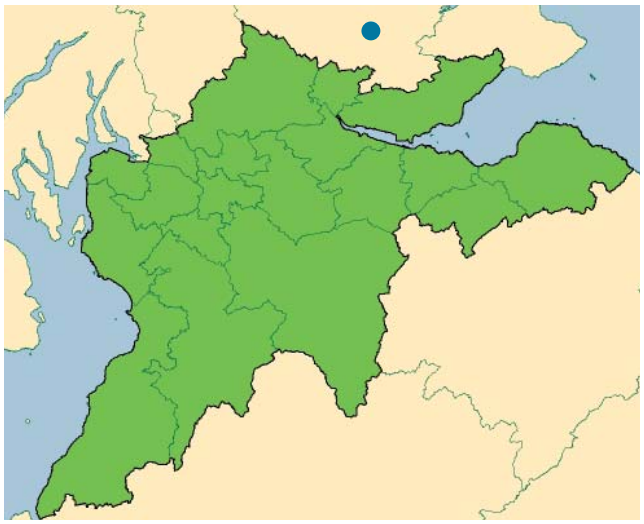
Cat MacGregor - Technical Manager, Simon Howie Butchers

Case Study 09 Simon Howie

Costs and Value

- Installation costs were £28,000. This was fully recouped within a year.
- Approximately £25,500 per year is saved the in removal and processing of waste, compared with previous tanker-based method.
- Saves around £24,500 per year in sewerage charges.
- Key customers, including major supermarkets, are increasingly concerned about their suppliers' carbon footprints and value Simon Howie's commitment to reducing CO_2.

Map showing the Simon Howie Site in relation to the CSGN area



The CSGN will change the face of Central Scotland by restoring and improving the rural and urban landscape of the area.

What is the CSGN?

The CSGN is one of the 14 national developments in the National Planning Framework 2. It is the biggest greenspace project in Europe and will help to make Central Scotland a more attractive and distinctive place to live, to visit and to do business. The CSGN has wide political and partner support and an all encompassing remit, far beyond just a 'green' initiative, with economic development central on the agenda.

What are these Case Studies for?

These case studies demonstrate that green network and green infrastructure approaches can save money and create better solutions for businesses. They are intended to inspire other businesses to take similar approaches and to inform interested parties, such as planning authorities, in order to encourage a supportive environment for such initiatives.

Getting in Touch

To discuss this case study please contact:
Stephen Hughes, Monitoring & Evaluation Manager,
Central Scotland Green Network Support Unit.
E-mail: stephen.hughes@centralscotlandgreennetwork.org

For further information on the CSGN and other case studies please visit: www.centralscotlandgreennetwork.org

your green business opportunity