

Nutrient spill overs for valuable fertiliser

What happened when farmers from the valley of Wipptal in northern Italy found their dairy cattle were producing an excess of slurries which could not be used, and at the same time there were vineyards in the region wanting to replace artificial fertilisers with natural fertilisers? The farmers created a biogas company!

How it came about

In the early 2000s, dairy cattle farmers in the valley of Wipptal in northern Italy found their herds were producing an excess of slurries. Furthermore, due to reasons such as conflicts with tourism (odour problems) and the fact that 40% of the meadows in the area are steep sloping, limited or even no manure application was possible. The vineyards in the region wanted to move away from costly artificial fertiliser and towards organic, natural fertiliser made from cattle manure.

65 dairy farmers and their wine growing neighbours came together to discuss the issue. The decision was made that this difficult situation could actually be transformed into an excellent opportunity for both parties and for the region in general. They got in touch with industry representatives, agricultural advisors and researchers from two universities and developed the idea for a project – to create a biogas company.

Biogas Wipptal plant

In cooperation with the farmers and one of the vineries, Helmut Döhler developed a concept and the dairy farmers founded in 2008 Biogas Wipptal GmbH, a limited company. The project to create the Biogas Wipptal plant was funded under a LIFE+ programme in 2012. It aims to

- decrease regional nutrient surplus in the air caused by intensive rearing of dairy cattle and agricultural land shortages
- produce natural high quality both solid and liquid fertilisers, that can be used in adjacent regions of the same province, especially for the growing of wine and orchard
- Conserve the life standards of the farmers involved in the project: they do not have to reduce the amount of animals in order to meet the environmental specifications.



Helmut says "We are practicing regional nutrient management, meaning we try to avoid surpluses of all nutrients including carbon."

Since June 2016, the Biogas Wipptal plant is up and running. It is an innovative approach for the handling of the manure produced by livestock farming. It is currently doing the following:

- **Biogas plant:** the solid and liquid manure from farmers (radius of 15 km around the plant) is pre-treated to produce electricity and heat.

- **Fertiliser production plant:** the other product from the anaerobic digestion process, the digestate, is transformed into a tailor-made fertiliser (for vineries etc.).

An innovative concept for low emission spreaders which are able to spread liquid digestates on steeply sloped grassland, which has not been used for manure application before. 50% of the digestate goes back to the farmers for spreading, and the other 50% is transformed into fertiliser for sale. Many more initiatives are in the pipeline.



A difficulty linked to specialised farming in the case of cattle farming is: the excess of slurries, the dependence on external inputs (fodder) and the lack of resilience to market changes. A possible solution to this last problem is diversifying the sources of income, and in this case, the creation of the biogas plant led to alternative sources of income and at the same found solutions to the other problems too.

Helmut Döhler explained "Creating the biogas plant was an opportunity to go beyond finding a way to use the excess slurries, it is providing solutions to many other issues and the plant has also a number of advantages for the surrounding community. It has boosted initiatives and activities that help to increase the economic and social conditions of the farmers. Selling the fertiliser to nearby vineyards will help to create vital connections within the local area, reduce their dependence on external artificial fertilisers and lower their transportation costs."

<http://www.biogas-wipptal.it/en/service.html>