



## Manure management to produce biogas and nutrients

### Nutrient recovery and closing loops with biogas technology in Finland

Finland produces around 20 million tons of manure annually, which could be used to produce organic fertilisers. This amount of manure contains 17,500 tonnes of phosphorous, sufficient to cover plant phosphorous needs at the national level.

Partly for these reasons, the process of manure management is relatively well established in Finland, with many manure processing facilities. The **Biovakka bio-digester plant** is one of these and it produces soil conditioners and fertilisers, biogas, and clean water from manure and other organic by-products/organic materials.

Ms Teija Paavola, development manager at Biovakka Suomi Oy explains: "Biovakka was established in 2002 by 21 farmers who wanted to find a way to increase pig production in the region and to develop a solution to manage the large quantities of pig manure in an environmentally-friendly way. Today the plant processes organic materials from agriculture, industry and municipalities. It produces biogas and safe plant nutrient products."



Two plants are currently in operation. The Vehmaa plant began operating in 2005, with a second plant in Turku being established in 2009.

The two plants take in different waste streams, which are the basis for different outputs. The Biovakka Vehmaa plant accepts by-products from enzyme production, leftovers from large-scale caterers, food industry by-products and animal manure. Paavola states: "These materials are refined into concentrated fertiliser products, heat, electricity and, in the future, bio methane to be used as transport fuel or for other industrial purposes. Part of the nutrients are used in industrial solutions in addition to agriculture."

Biovakka is one of the circular economy examples, presented at the EIP-AGRI Workshop 'Opportunities for Agriculture and Forestry in the Circular Economy', held 28-29 October at Naantali, Finland. Circular economy is one of Europe's ways to move to a more resource-efficient society, as set out in the Europe 2020 strategy for smart, sustainable and inclusive growth. The circular economy can help transform Europe into a more competitive and resource-efficient economy, where our reliance on non-renewable resources is reduced and where we do more with less.

### More information

<http://www.biovakka.fi/en>

[Presentation Biovakka at the EIP-AGRI workshop](#)

[EIP-AGRI Workshop 'Opportunities for Agriculture and Forestry in the Circular Economy'](#)