

# Digestate processing

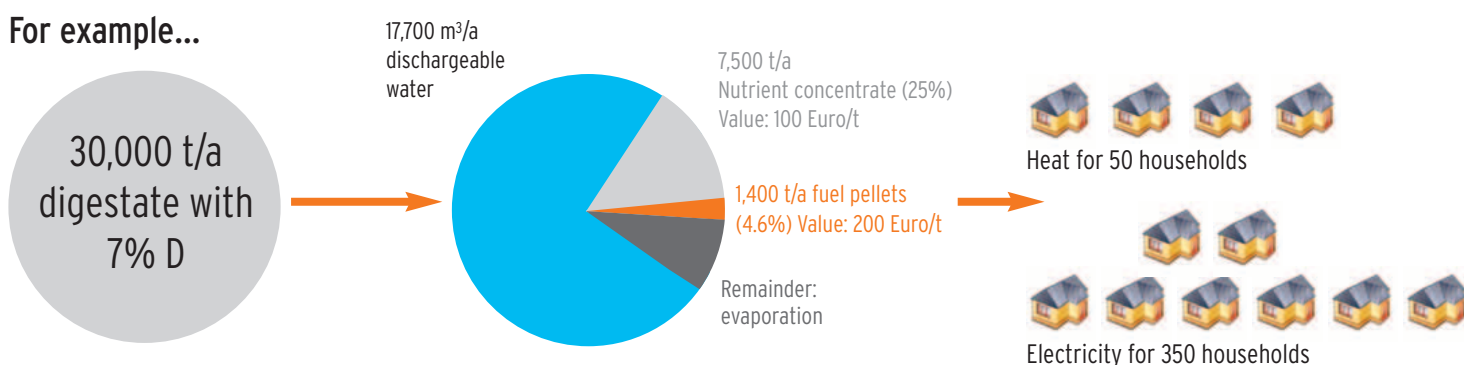
Converting a residue to a resource

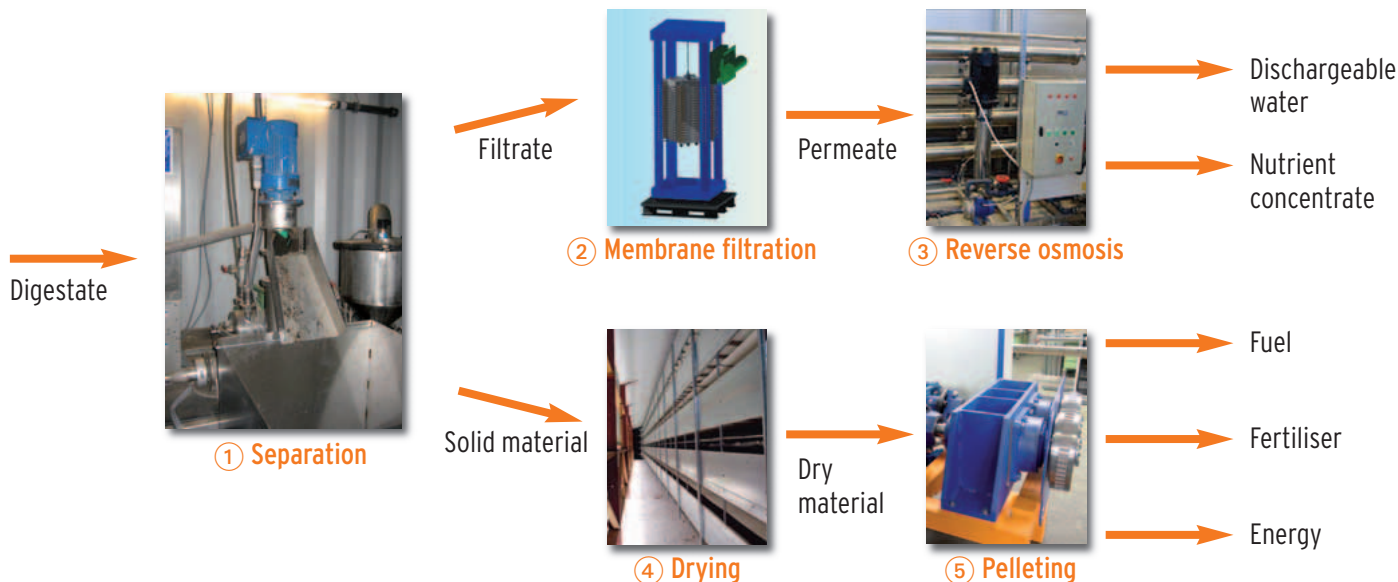
## Adding value through processing

Constantly rising energy costs, limits on when digestate may be spread on land, increasing numbers of biogas units, increasing substrate prices, large transport volumes - these are only some of the issues confronting biogas producers. Cost effective and efficient digestate processing is an important pillar for profitable biogas production. The water which accounts for 90-95 % of the digestate is cleaned. The nutrients and solid materials are concentrated and converted to a valuable

resource. The system uses coarse and fine separation combined with drying and pelleting resulting in dischargeable water and fertiliser pellets, fuel and nutrient concentrate. The process is modified for various products depending on the market for them. The processing delivers energy additional to that from the biogas electricity and heat.

For example...





### ① Separation

The result is a spreadable solid material (30 % DM) and filtrate. The filtrate is rich in N and K. The solid material is rich in P. New energy efficient technology. Robust low speed motor. 0.1 mm stainless steel perforated sieve.

### ② Membrane filtration

Treatment of the filtrate using new UF methods. Avoidance of membrane blockage through a special digestate manipulation system. Pumpable nutrient concentrate and permeate for further processing.

### ③ Reverse osmosis

Standard reverse osmosis for producing dischargeable water (multilevel). More liquid nutrient concentrate. A highly concentrated nutrient solution following mixing with the UF concentrate.

### ④ Drying

Drying of the separated solid material. Belt dryer using CHP heat. Equipped with exhaust air scrubbing depending on regulatory requirements. Solid material with 85-90 % DM.

### ⑤ Pelleting

Pelleting of the dried material. Production of either fertiliser pellets or fuel pellets. For better handling and fuel dosing characteristics, pellets should be produced.

**Instead of a residue:**

- Marketable fertiliser
- Fuel
- Dischargeable water
- Electricity

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