Ministry of Food,
Agriculture and Fisheries

Bio-gas

Business Development in The Agricultural Industry

Bio digestion of animal manure is one of the most cost-effective ways to

- reduce negative environmental impact from livestock farming
- reduce greenhouse gas emissions
- produce renewable energy
- maintain a platform for sustainable agricultural production

The digestion process actually improves the fertilizer impact of livestock manure by untying nitrogen from some organic compounds into non-organic compounds and by reducing the emission of ammonia from applying the manure in the field.

Furthermore the produced biogas displaces CO_2 by delivering renewable energy.

The improved fertilizing effect reduces by itself the leaching and emission of nutrients from the farming process.

Separation of slurry

The positive improvement of the environmental impact from farming can be even more sophisticated by utilizing new techniques to separating slurry into liquid and dry fractions.

Separation of slurry enables the farmer to cut down transport costs and introduces possibilities to dose the application of nutrients more accurately in order to optimise the fertiliser impact and reduce surplus – especially of phosphorus which is a very scarce resource.

Bio-gas from by-products and waste

Other residues and by-products from farming such as harvested grass from marginal soils, surplus straw, animal waste from slaughterhouses etc. can very well be utilized in bio-gas plants into renewable energy.

Examples of untapped biomass potentials from agriculture in Denmark

Initiative	Current energy supply	Potential	Possible increase
	Peta joule		
Grass and other extensive crops from lowland areas into biogas	0	5,1	5,1
Livestock manure into biogas	1,1	20,2	19,1
Better use of straw	19,1	30,7	11,7

Note: The Danish energy supply from biomass is currently 27 Peta joule

Danish Green Growth Agreement

The Danish Government's Green Growth Agreement with a majority of the Danish Parliament (June 16, 2009) sets up the goal that by 2020 at least 50 percent of livestock manure should be utilized in renewable energy production.

To meet this goal the following new initiatives will be implemented:

- A starter pool of DKK 85 million annually for construction of new common bio-gas plants and farm unit-related investments associated with connection to a common plant from 2010 to 2012. (Max. 20 percent of total costs).
- A starter pool for bio-gas plants specifically for organic farming of DKK 15 million annually from 2010 to 2012. (Max. 20 percent of total costs).
- Amendments to the Planning Act that oblige the municipalities to include allocation of bio-gas plants in municipal planning.
- Equalisation of grants whether biogas is applied directly into Central Heat and Power plants or upgraded to transmit in the natural gas grid.

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