

Biogas plant „Domaine des Saugealles“

Lausanne is the fourth city of Switzerland, situated at the lack Geneva.

The city of Lausanne owns of 750 ha of farmland, for the most part divided over 9 farms, or “domaines”. One of these farms, the “Domaine des Saugealles”, a biogas plant is in operation.

The idea of an anaerobic digestion plant came after a common reflexion between the Service of agricultural properties and the Industrial services of the city of Lausanne. Indeed, a biogas unit allows them to answer to the following objectives:

- To contribute to the sustainable energy development policy of the city of Lausanne;
- To diversify the activities of farmers working for the properties of the city of Lausanne, to face up to agricultural policies constraints and to the city development pressures;
- To offer new outlet for the organic wastes collected by the city of Lausanne;
- To increase the value of the energy of farm slurry and other organic wastes;
- To contribute to the heating needs of a farm in an autonomous way.



Location of Lausanne in Europe
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The biogas plant at the end of the construction phase, May 2007 © Suisse

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Biogas Regions Shining Example

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key data

Start of the operation	2007
Type of corporation.....	Local authority with exploitation contract given to the farmer of the domaine involved
Amount of gas produced	172 000 m³ per year
Investment costs	600 000 €

Investment costs only for turn-key installation, earthworks not included.

The project has been completely financed by “Fonds du développement durable de la ville de Lausanne” (sustainable development funds of the city of Lausanne).

feedstock

Liquid manure (cattle).....	1 200 tons per years
Solid manure (cattle).....	700 tons per years
Grass from the city	100 tons per years
Solid manure (horses)	625 tons per years
Frying oil	45 tons per years
Kitchen wastes.....	100 tons per years

production data

Available area for the output of the biogas fertilizer	55 ha
Thermal power rating of the gas engine	120 kW
Generated thermal energy.....	440 000 kWh per year
Utilisation of heat	Heating digester
	Hygienisation of kitchen wastes
	Farmer houses
	Warm water for the milking room and the farm
	Surplus part to dry wood and hay (in project)
Electric power rating of the gas engine	100 kW
Generated electric energy	375 000 kWh per year
Power consumption (electricity) of the plant itself	125 000 kWh per year
Annual delivery of electricity to the electric grid company (SIL – Industrial Services of Lausanne)	240 100 kWh per year

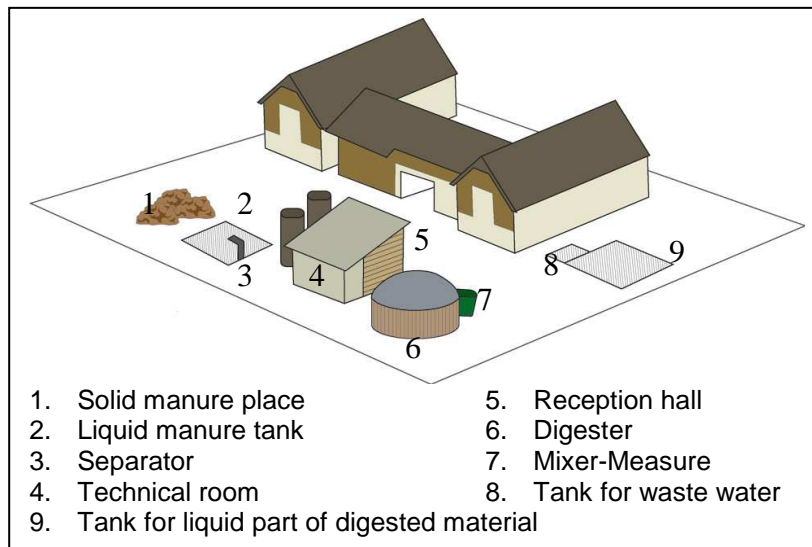
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technical plant description

Sumps	90 m³
Digester	400 m³
Digested manure storage tank	345 m³
Gas storage tank	100 m³
Residence time in the digester	40-60 days
Temperature of the anaerobic digestion (operational)	35-42°C



Schematic plan of Saugealles biogas plant © Suisse Energie

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