Technical data sheet

Anaerobic Digestion Plant of Lana

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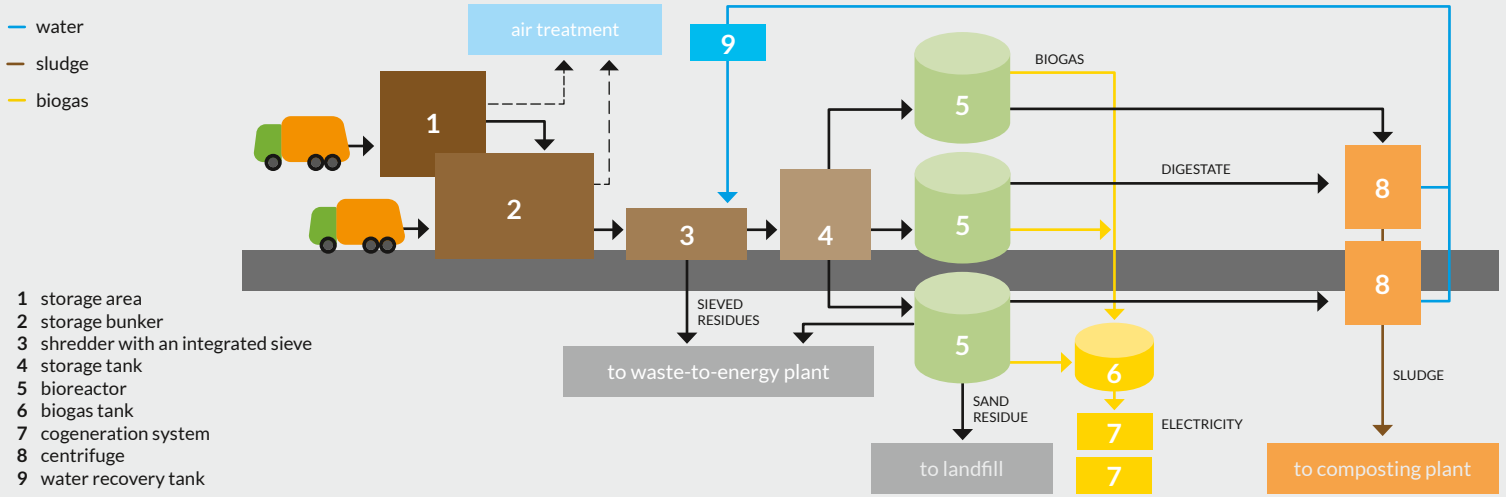
Anaerobic Digestion Plant of Lana

Waste treated: organic waste
Catchment area: 51 municipalities
Commission date: 2020
Electricity produced: for 1500 families
No. 3 digesters: total volume 4.200 m^3,
dry matter 4%, volatile solid reduction 80%
Sludge dewatering: incoming sludge:
dry matter 4%, outgoing sludge: dry matter 25%
Cogeneration power: 334 kWel (cog.1),
536 kWel (cog.2) and 851 kWel (cog.3)

The garbage trucks unload the organic waste onto the storage platform **(1)** or directly into the storage bunker **(2)**. The compartment that houses the storage and processing areas is kept at negative relative pressure to prevent the escape of odors. The air drawn from it is treated by a biofilter. Through screw conveyors, the waste first passes through a shredder with an integrated sieve **(3)** that shreds everything, separates any impurities such as plastic/bioplastic bags, fabric, wood and adds a certain amount of water to make the material pumpable. The liquid mass is then pumped to the storage tank **(4)**. From it, three digesters **(5)** are constantly fed. They are equipped with an extraction system that removes the smaller heavy materials present on the bottom such as bones, eggshells, shells, as well as lighter materials that float on the surface. The minimum theoretical residence time of the material in the digester is 30 days. The microorganisms present in the digester decompose the organic part of the waste by developing biogas with about 60% methane content. The biogas is captured and collected in the biogas tank **(6)** and through three cogeneration groups **(7)**, composed of a biogas engine and a current generator, electricity is produced. From the digester, the digested material passes to the dewatering stage where it is dehydrated through two centrifuges **(8)** and becomes sludge. The sludge is transferred to a composting plant for the production of valuable compost. Part of the separated water is sent to the water recovery tank **(9)** and then reused.



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