

Zirl, Tyrol

Wastewater treatment plant

The wastewater treatment plant in Zirl is designed for 61,500 population equivalent and has an anaerobic digester with 1,350 m³. In Austria on average wastewater treatment plants can cover 43% of their energy demand by anaerobic digestion of sewage sludge.

By using organic waste as co-substrate the plant in Zirl reached to cover the whole electricity demand. They use co-substrates like faulty batches, expired bread, grease separation material and coffee grounds from Nespresso-taps. From a Truck-Load with 23 tons of Nespresso-taps biogas with an energy equivalent of 23.500 liters of fuel oil can be produced. All in all approximately 3,000 tons/year of organic waste is used as substrate additionally to the arising sewage sludge. The waste like Nespresso-taps is pre-treated by a private waste management company using a hammer mill.

The wastewater association in Zirl is cooperating with different partners from industry and science to further optimize the use of digester volume of wastewater treatment plants.

Technology at a glance

- Biogas production: 700,000 m³/year
- Installed power: 175 kWel
- Digester: 1x1,350 m³
- Substrates: expired food, faulty batches, grease separation material, coffee grounds,...
- Input waste/substrate: 3,000 tons/year (68% sewage sludge, 32% organic waste)
- Operating hours: 8,000 h/ year



Information on financing

- Year of realisation: 2005 – start digester
- Feed-in tariff electricity: no green power plant; only covering of own electricity demand
- High disposal costs for dewatered sludge: biogas production could be doubled – increase of dewatered sludge only 10%-15%

More information

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