

BEST PRACTICE



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Biogas production from food waste

Helsingborg, Sweden – 143 000 inhabitants

Biogas – Fertilizers – Circular economy



The company Nordvästra Skånes Renhållning (NSR) is jointly owned by 6 municipalities in the south of Sweden. It has been producing digestate and biogas from waste since 1996. NSR promotes waste minimisation and is working to reach a more sustainable society.

Project in a Nutshell

The plant re-uses waste material from different sources, including the organic part of household waste from different municipalities, two digester tanks from a sugar mill as well as crushed bricks as land cover and re-used furniture for the offices and common areas. The digestate is certified according to the Swedish certification system SPCR 120 and thus approved for fertilising cultivated crops aimed for the food industry.

Impact & Next steps

The plant has an organic waste capacity of 160 000 tonnes/year and produces 80GWh of Biogas and 145 000 tonnes of digestate. The digestate is distributed to agricultural land via pipeline or by trucks effectively recirculating nutrients such as phosphorous. The purified biogas is used as automotive fuel for buses, waste collection trucks, taxis and private cars. Since 2002 a share of the bio methane has been directly injected into the natural gas grid.

Plans and projects for the near future include: a liquefaction plant, LBG/LNG refuelling station, additional odour reduction, increased source separation of food waste, reduction of truck transportation of digestate by expansion of the pipeline network as well as production of dry fertiliser, and a pre-treatment plant for household waste and other organic waste delivered in plastic bags.

Replicability: Challenges & Success Factors

In order to reduce odour coming from the digestion process, NSR has long experience of using bio filters. In 2014 an additional bio filter unit with activated carbon was installed for treatment of odour from the new receiving tank.

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