

Hammarby Sjöstadsverket - Long-term collaboration between researchers, sewage treatment plants and industry to meet future challenges within wastewater treatment

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Hammarby Sjöstadsverk

Test- and demonstration facility for innovative wastewater purification

General Information

The Hammarby Sjöstadsverk R&D facility with the possibilities for tests, demonstration and analyses was 2008 jointly taken over by KTH Royal Institute of Technology and IVL Swedish Environmental Institute. The plant is one of the most well equipped pilot plant sites worldwide, with the latest technologies on membrane bioreactors, reverse osmosis in combination of advanced oxidation processes and biological treatment systems.

Hammarby Sjöstadsverk is a unique place for long-term collaboration between researchers, sewage treatment plants and industry to meet future challenges within the wastewater treatment sector. The plant has access to both real estate and ordinary wastewater and the facility has the possibility to integrate and test new components/units in different technology environments which makes it ideal for testing an integrated water monitoring system.

Hammarby Sjöstadsverk has wastewater treatment lines in pilot plant scale (150 p.e. = 1,5 m³/h)

<http://sjostad.ivl.se>

Treatment lines

- Aerobic treatment with activated sludge process and sedimentation.
- Aerobic treatment with membrane bioreactor (MBR), an aerobic reactor with submerged micro filter, and drum filter for separation of primary sludge.
- Anaerobic treatment with UASB-reactors (Upstream Activated Sludge Blanket). With anaerobic treatment high biogas production can be achieved, however, without possibility for biological nutrient removal.
- The produced sludge can be thickened, digested and dewatered.

Present research areas

- 🌀 Treatment of side streams
e.g. the Anammox process
- 🌀 Increased biogas production
e.g. production of environmentally friendly fuels
- 🌀 Additional treatment of effluent
e.g. removal of pharmaceuticals

Additional planned research activities

- 🌀 Requirements for influent water (causes of disturbances)
- 🌀 Optimization of existing aerobic and anaerobic processes
- 🌀 Process and measurement technology
- 🌀 Climate protecting treatment technologies
- 🌀 Development of new innovative technologies and processes for reuse of waste water (especially use of magnesium and manganese compounds)



IVL Swedish Environmental
Research Institute



Land and Water Resources Engineering
Royal Institute of Technology