

Kandidatarbete
Examenskod ACEX11



Assessment of thermophilic anaerobic digestion

Sludge produced in wastewater treatment plants is often digested to produce valuable biogas. Most digesters are operated at mesophilic temperatures (ca 35°C). Digestion at thermophilic temperatures (ca 55°C) leads to higher biogas yield and better hygienization of the sludge.

In Sweden, there has been an increased interest in converting mesophilic digesters to thermophilic digestion due to the increased biogas production. Currently, there are only a few full-scale thermophilic installations in Sweden. Many treatment plants are considering converting their mesophilic digestion into thermophilic and there for there is a need for a review of existing plants as regards operational conditions, biogas production and sludge dewatering properties. This is an important aspect since sludge needs to be dewatered after digestion to reduce costs for transportation.

In this project, we will gather information about thermophilic anaerobic digesters in Sweden. This will be done both through a survey of the literature and public data, and through interviews with operators of anaerobic digesters. The work will be an important contribution to VA Teknik Södra, a cluster of universities, companies, and municipalities focusing on research and development of water and wastewater systems in southwestern Sweden

Literature recommendation:

http://vav.griffel.net/filer/SVU-rapport_2012-15.pdf

<https://va-tekniksodra.se/>

Target group of students

TKSAM, TKKMT, TKKEF,
TKBIO

Group size

3-6

Special requirements

Suggestion from

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Can the project be duplicated?

No

If any of the following aspects to be integrated

- ☐ Digitalization
- ☒ Sustainability
- ☐ Climate change
- ☐ Gender equality, equal treatment and diversity
- ☐ Other