



Laboratory

In addition to sound and reliable plant technology, a further factor decisively determines the economic viability of your biogas plant: a stable digestion process! Are you familiar with spirilla, spirochaetes or mycoplasmas?

Schmack Bioenergy's own accredited laboratory has been offering comprehensive analysis services of biogas plants as well as environmental analysis services since 1995. Modern analysis equipment and analysis methods developed in-house always provide results concerning the current digestion process quickly and reliably.

These results serve as a basis for the individual consultancy services provided by our site managers. Only in this way can you be certain that your biogas plant is operating in a stable and efficient manner.

We have the experience

Comprehensive biological analysis services and the intensive monitoring of biogas plants have been part of the wide range of services provided by Schmack Bioenergy from the very beginning. In addition, with "Fit for Biogas", a program providing individual advice for safeguarding and optimizing the digestion process was developed. We already have access to a unique pool of data collected from around 20,000 process analysis.

We offer a comprehensive range of services

- **Assessment of feedstocks:** The testing of feedstocks for gas yield, digestion progress and nutrient and harmful substance content allows you to work out the ideal formulation for your feedstocks. Possible inhibitions and contamination with harmful substances can be avoided in advance.

- **Process monitoring:** The regular analysis of all important process variables, e.g. range of fatty acids, pH value, the dry matter content and organic dry matter content makes it possible to manage the digestion process in an optimum manner.
- **Analysis of the digestion residue for harmful substance and nutrients:** Tests in accordance with the U.S. regulations, as well as digestion residues for quality and routine QAQC material.

We are extremely quick

The laboratory has high-precision analysis equipment in order to examine the various media. This equipment includes the atom absorption spectrometer AAS, the atom emission spectrometer with inductively coupled plasma ICP OES and the gas chromatograph GC (FID). With our professional equipment and qualified specialist staff, we are in a position to analyze samples comprehensively as soon as they are received. The first results, which play a decisive role in ensuring the stable operation of your biogas plant, are available in an extremely short space of time.

Biotechnology and technical laboratory testing

In our highly accurate models of our biogas plants, we are able to recreate situations which are encountered as part of practical operation on a laboratory scale. By deliberately influencing the biological process in the laboratory, the findings can then be reliably integrated into practical operation in order to increase efficiency.

In the microbiology laboratory, we aim to gain further insights into digestion processes and the composition of the micro-organisms. The aim for the future is to design bacteria populations to optimize digestion and energy produced.

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