

LIFE+ SusTreat

Communication plan

The "SusTreat" project was planned and implemented by Stadtentwässerung Koblenz (SEK) and the engineering firm Sweco GmbH (formerly GÖTZELMANN + PARTNER GmbH GOEPA). This project pursues a novel concept for the utilisation of the entire energy potential in wastewater or sewage sludge. Accordingly, the sewage treatment plant is largely self-sufficient regarding energy, and the amount of sewage sludge to be disposed of is reduced.

Environmental problems and target groups

Sewage sludge is produced during wastewater treatment in sewage treatment plants. Due to rapid population growth and industrialisation, the amount of sewage sludge is constantly increasing. With the new amendment of the German Sewage Sludge Ordinance, thermal utilisation of sewage sludge from sewage treatment plants with more than 50,000 population equivalents (PE) is prescribed, although the capacities of incineration plants are currently limited. Disposal costs are rising due to the high demand for incineration, making sewage sludge disposal a serious challenge for operators of wastewater treatment plants. In addition to the problem of sewage sludge disposal, the energy consumption of municipal wastewater treatment plants is very high. German sewage treatment plants require almost 4,400 GWh of energy and their annual CO₂ emissions amount to around 3 million tonnes.

As part of the "SusTreat" project, a new concept for sewage sludge treatment has been integrated at the Koblenz wastewater treatment plant (WWTP) and put into operation. With this concept, the energy in the sewage sludge is made energetically usable. The additional energy from the sewage sludge treatment serves the energy consumption of the sewage treatment plant and thus its reduction of the CO₂ emissions. Furthermore, the amount of sewage sludge to be disposed of is reduced. In this light, this project and the implemented concept is a model for other wastewater treatment plants.

The communication plan describes the different planned communication activities of the project participants. It provides an overview of how the main target groups - cities and municipalities, water associations from Germany and abroad, and political decisionmakers - will be reached after the end of the project. The communication plans of the respective project partners are explained in detail below.

Stadtentwässerung Koblenz (SEK)

Once completed, the project will serve as reference with a unique selling point and will thus attract a great deal of attention in the industry. It demonstrates a process that can be transferred to numerous other wastewater treatment plants, both in terms of size and implementation. Therefore, many wastewater treatment plant operators will visit the thermal exploitation section of the WWTP with the possible tendency to implement the process in their plants. In this context, SEK will offer further guided tours for interested parties.

SEK will continue to operate the project website "www.sustreat.eu" five years after the end of the project in 2021. The website provides information on all important project objectives and results. The photos of the individual construction measures of the respective plants can also be seen on the website. In addition, the published press reviews are uploaded regularly. After



the approval of the gasification plant, it is planned to hold a big closing event or press conference with the manufacturing company SÜLZLE Kopf-SynGas.

During its implementation, "SusTreat" has been an important model project contributing to the country's sustainability strategy. As a result, the project has received a lot of attention from citizens, students, pupils, sewage plant operators and politicians. Numerous guided tours and visits to the sewage treatment plant have already taken place. After the end of the project, further guided tours will be offered. Requests for guided tours can be made via the website "www.sustreat.eu".

Apart from guided tours, lectures will be held for the experts (e.g. DWA, water associations, sewage plant operators) to present the project on the national and international level. The transfer/communication of practical experience from the daily operation of the Koblenz sewage treatment plant, in particular on the operation of sewage sludge dryer and gasification, will play a complementary role.

Sweco GmbH

Sweco GmbH was responsible for the planning, construction and commissioning of the project. The large-scale implementation of sewage sludge drying and gasification at the Koblenz sewage treatment plant will provide reliable and transferable data for the optimal use of sewage sludge in terms of energy. The data obtained will be used as a basis for planning new plants. After one year of plant operation, the Koblenz sewage treatment plant will be evaluated on the basis of quantifiable key figures. These key figures will be used for direct comparison with other wastewater treatment plants of similar size. In addition, the key figures and experience from SusTreat will be used to optimise the energy efficiency of other wastewater treatment plants.

„SusTreat“ will serve as a reference plant for the project partner Sweco GmbH. In this sense Sweco GmbH applies for the planning as well as construction measures of similar plants.

After the end of the project, the drying and gasification processes will be further optimised in terms of energy generation. These results will be presented at various relevant events (e.g. at the DWA) and published in technical journals (e.g. Korrespondenz Abwasser, etc.). Thus, further experts will be reached and informed about the project. Furthermore, the project is promoted in connection with the topic of phosphorus recycling at trade fairs and exhibitions at the booth of Sweco GmbH.

As an engineering company for environmental technology and infrastructure with over 17,500 employees in 15 EU countries, Sweco GmbH has already pointed out the positive results of the SusTreat project in initial internal publications. Through internal networking alone, information is distributed via the Sweco portal (Internet). Thus, the project results are disseminated throughout the EU.

Company SÜLZLE Kopf-SynGas

As part of the "SusTreat" project, the company SÜLZLE Kopf-SynGas built the thermal utilization plant (synthesis gas generation and utilization) at the Koblenz wastewater treatment plant (WWTP). This is a SynGas-combined heat and power module for generating electricity from dried sewage sludge.



For company SÜLZLE Kopf-SynGas, the engineering, construction and commissioning of this module represents a pioneering project, with which the first and most modern large-scale plant for the generation of electricity from dried sewage sludge has been realised.

The project is of great importance to Kopf SynGas as a reference project and demonstration plant for interested customers and potential partners from Germany, Europe and the international environment, as well as for political decision-makers and those responsible for funding programmes.

For customers from the industrial sector, such as cement and steel production, the project in Koblenz also serves as a reference for stable large-scale operation of synthesis gas production.

SÜLZLE Kopf SynGas will operate and maintain the plant built in Koblenz on behalf of KA Koblenz even after acceptance under a service contract. Thanks to the operating experience gained in the process, SÜLZLE Kopf SynGas will also be in contact with Koblenz WWTP for further development of the technology.

In particular, technical optimizations are being sought in the overall plant, which should lead to a reduction in operating costs. The introduction of predictive maintenance in conjunction with the highly automated system functionality is intended to ensure maximum system availability.