



Environment and energy

Colsen International b.v.

Newsletter
2012 - #3

In this newsletter:

- Colsen ISO certified
- Kick-off EcoInnovation project WAVALUE
- First BIDOX® in the paper industry
- Anaerobic granular sludge available

Colsen ISO certified

Mid 2012 Colsen was able to certify her entire organization according to the **NEN-EN-ISO-9001-2008** standard. This means that all of the following activities reside under this quality regime: permit application in the area of environmental & rural planning and waste water discharge; technology development in the area of water treatment, digestion, biological desulphurization, upgrading of (bio-) gas and nutrient recovery from waste streams; design, engineering, construction, commissioning, start-up and operation of environmental installations, as well as **consultational activities** in the above-mentioned areas.

Colsen owns a number of soil activities related ISO certifications since 2007. These relate to application areas like: environmental monitoring and evaluation of soil remediation; geotechnical and environmental activities; soil sampling for analytical surveys and execution and surveillance of field work during hygienic soil remediation.



Kick-off Eco-Innovation project WAVALUE



eco-innovation
WHEN BUSINESS MEETS THE ENVIRONMENT



In July 2012, the WAVALUE project is launched aiming at the investigation of **innovative digestate treatment technologies**. This European project is supported by the Eco-Innovation program. Colsen collaborates with Spanish partners: EKONEK, NEIKER and BLUE AGRO.

The research activities focus on processing of digestate with 'spouted bed' techniques aiming at production of tailor-made N-P-K fertilizers. For this purpose a pilot plant will be built in Spain where solid and liquid digestate fractions will be processed as main raw materials. The feasibility study not only aims at integrating the technology in completely new installations, but

also at the option to use the technique as an add-on for existing installations.

This technique allows us to **close the nutrient cycle upon fermentation**. Nitrogen, phosphate and potassium can be reworked to fertilizer, thus eliminating the need for digestate post treatment. Local markets can also be supplied with N-P-K fertilizers for which demand and revenue are the largest.

After completion of the project in 2014, it is expected that this technique represents a strong alternative in Europe for the traditional digestate treatment as it is applied today.

First BIDOX® installation in the paper industry

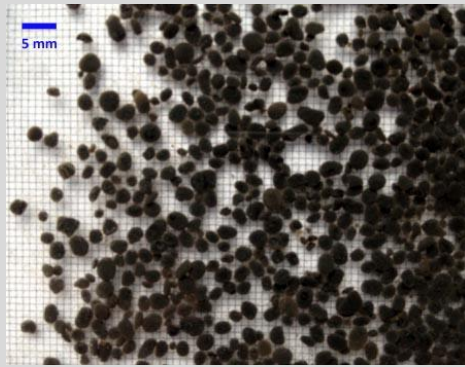
In July 2012 Colsen International b.v. delivered the first **BIDOX®** installation in the paper industry. A leading recycled paper producer in Italy has expanded the waste water treatment installation with an anaerobic biological treatment and **biogas desulphurization unit (BIDOX®)** in order to be able to use the biogas as natural gas replacement. The anaerobic reactor processes the waste water from paper mill, whereby 460 Nm³/h biogas is produced with an H₂S content of 5,600 ppm.

In order for the biogas to be used as an alternative for natural gas, it is necessary to remove the greater part of the highly corrosive hydrogen sulfide (H₂S). The **BIDOX®** installation was complete and after a startup period of 6 weeks the specifications were met and the installation was handed over to the customer. The biogas leaves the BIDOX® with a H₂S level below 200 ppm.

Because of a specific technological & technical design and operation of this BIDOX® installation, we could **maximize the conversion of H₂S to sulphate to >99%**. In this way the formation of solid sulphur, responsible for potential clogging of the installation, is prevented. This proves that the BIDOX® installation is a solid and maintenance free installation without downtime (see also extended [product brochure](#)).



Anaerobic granular sludge available



In several industrial sectors anaerobic wastewater treatment is commonly applied. The **granular sludge** plays a vital role within this technology. In this way waste water containing high levels of organics (COD) is purified effectively. Anaerobic methanogenic biomass present in the reactor transforms the organic matter into biogas. The anaerobic reactors are designed to stimulate the formation of granular sludge, which stays inside the reactor.

However, in unfortunate events sludge may wash out from the reactor (e.g. during a calamity). In order to be able to restart the reactor quickly or to startup a fully new reactor, the anaerobic biomass from an existing installation can be used for inoculation purposes.

Colsen has a track record in water purification and energy production for more than 2 decades and counts numerous customers who are operating an anaerobic WWTP. This is the reason why Colsen is able to [mediate in the trading of anaerobic granular sludge](#).

Colsen International b.v., Environment and Energy

Kreekzoom 5, 4561 GX Hulst - Tel.: (+31)114-311548 - Fax.: (+31)114-316011

Feel free to [contact](#) us.

To subscribe or unsubscribe to this newsletter, please send a message to info@colsen.nl.