

Name Michael Müller
Phone +49/69/305-7952
Fax +49/69/305-80025
Mobile +49/172/6823176
E-mail michael.mueller3@infraserv.com
Internet www.infraserv.com
Date May 15 2006

Co-digestion plant in Industriepark Höchst

Infraserv Höchst invests EUR 15 million in clean energy production

Infraserv Höchst plans to build a co-digestion plant in Industriepark Höchst. Every day, the plant will produce 30,000 cubic meters of biogas by converting the organic constituents of biosolids and organic wastes. Infraserv Höchst is investing some EUR 15 million in the facility, the first of its kind to generate biogas with industrial biosolids.

This summer, construction will begin in the western sector of the 4.6-km² industrial park. Industriepark Höchst houses more than 80 companies in the chemical, pharmaceutical, biotechnology and process industry and is the daily workplace for 22,000 employees. The co-digestion plant, scheduled to start up in the third quarter of 2007, consists of two digestion tanks, each measuring 30 meters tall with a volume of some 11,000 cubic meters. In addition, workers will be building a power house, combined heat-and-power plants, two nitrification tanks and two more tanks called sludge thickeners. The plant will start out with a yearly capacity of 90,000 metric tons of co-substrates, but it is modular, and can be expanded as needed. In the beginning, it will generate 30,000 cubic meters of biogas per day, which will be converted to 4 megawatts of electricity and heat in a combined heat-and-power plant.

The co-digestion plant ferments biosolids and organic wastes anaerobically. Infraserv Höchst has been testing the process in a trial facility for two years. The biosolids – a byproduct of the Industriepark Höchst wastewater-treatment plant – make up the bulk of the input materials. The organic wastes are added to significantly boost biogas production.

Biosolids on-site

The organic wastes consist of several materials: from kitchen refuse to fermentation residues from biotechnology facilities right up to foods with an expired best-before date. Most of these wastes are purchased on the open market. The other substrate class is biosolids (sewage sludge), which come mainly from Infracorps Höchst's waste-management facilities. All in all, there is always enough material for the co-digestion plant. An added benefit: Using the sewage sludge in the co-digestion plant frees up capacity in the park's sewage-sludge incinerator. This facility, with an annual capacity of 190,000 metric tons, thermally utilizes the biosolids from Industriepark Höchst – and elsewhere: Infracorps Höchst also serves several local governments, including the city of Wiesbaden.

The process of co-digestion is not new; municipal sewage works already use it. What is new is its application at an industrial site – until now, industrial biosolids were poorly suited for anaerobic digestion and biogas production. However, biosolid composition has changed at Industriepark Höchst in recent years, due partly to the modernization of the wastewater-treatment and pretreatment plants, and partly to alterations in the wastewater mix at the park. The newest facilities, for example, mostly generate easily biodegradable wastewater. Many resident companies have also optimized their production processes: Not only do they produce less wastewater, but they have incorporated pre-treatment to keep undesirable constituents from reaching the wastewater-treatment plant.

Efficient energy supplies – a location advantage

As the operator of Industriepark Höchst, Infracorps Höchst supplies customers with utilities (energies and media), disposes of wastes and wastewater, and manages the advanced technical infrastructure in the park. It also provides services in facility management, logistics, IT services, training and continuing education. The co-digester is an innovative part of the park's energy and waste-management strategy. With it, Infracorps Höchst can offer corporate residents both utilities and waste-management services at globally competitive prices. For manufacturers, these costs are fast becoming a crucial success factor in the global market. That is why Infracorps Höchst is constantly exploring ways to optimize infrastructural systems – all to benefit customers and make the park more attractive.

One of its main priorities is renewable energy use and waste recycling. As legislation has changed, so have the requirements for disposal methods – and these changes can force local governments to make enormous investments. However, when capacity grows at an industrial site, the need to build new

municipal waste-management facilities becomes irrelevant, at least in part. Infracerv Höchst, as an operator of sophisticated infrastructure including waste-disposal plants, has extensive know-how in developing new processes and operating facilities. The underlying conditions and Infracerv Höchst's ambition to supply low-priced electricity and steam to tenant companies have come together to make processes highly efficient and cost structures extremely lean.

Infracerv promotes clean energy use

For years, Infracerv Höchst has been heavily involved in advancing the use of renewable, environmentally friendly energy sources. It supports several resident companies who specialize in hydrogen and fuel-cell technology, operates a natural gas filling station, and offers efficient energy-management systems to clients. In 2006, Cargill, a U.S. company, will be building a biodiesel plant in the park. As such, the co-digestion plant serves the overriding goal of exploring new methods of regenerative energy production – and simultaneously makes Industriepark Höchst a more attractive industrial site.

Contact:

Infracerv Höchst

Phone ++49 69/305-6767

Fax: ++49 69/305-82877

E-Mail: kundenservice@infracerv.com

www.infracerv.com