Bigadan builds biggest biogas plant in Denmark

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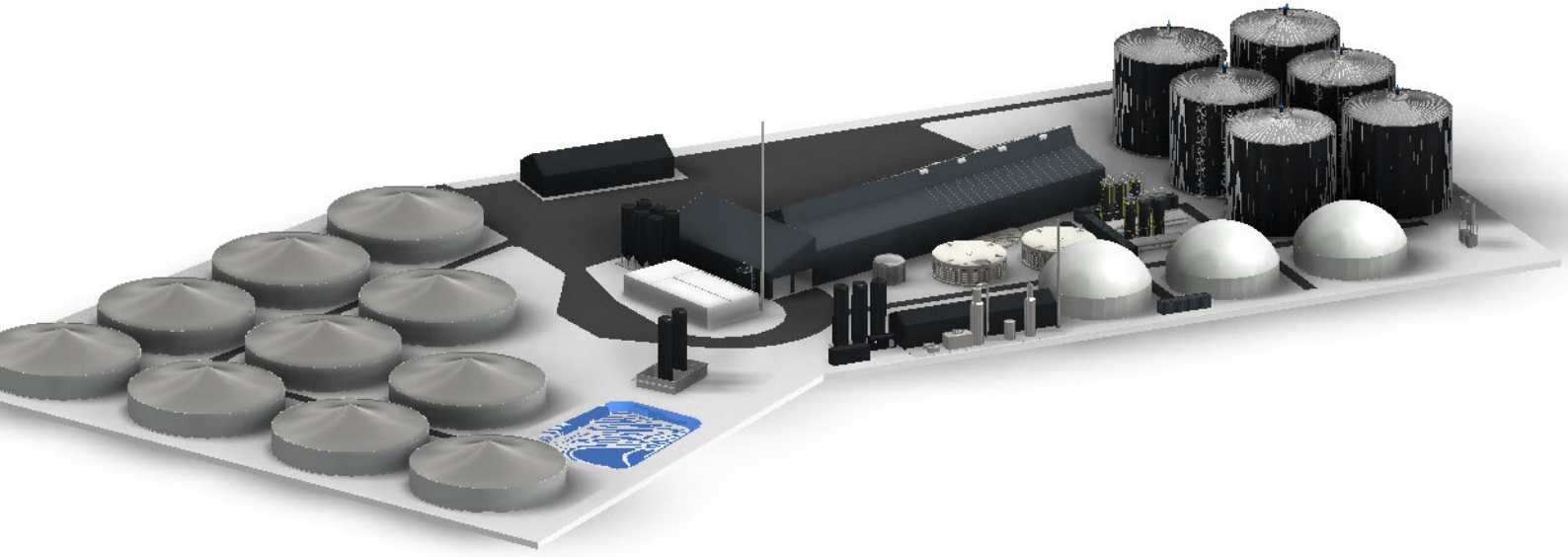

Biogas has really come to the fore in the struggle to replace fossil fuels, and several of the large industry companies have joined in. There is political support for this in Denmark as well as in the rest of Europe – also for the major upgrading plants. Bigadan is now building a large biogas plant in Denmark, including an upgrading facility, so the gas can be fed to the grid – DONG is a partner.

Bigadan is one of the major players in biogas plants; they have more than 30 years of experience and have built over 40 plants around the world – many of which they own and/or operate themselves.

With DONG as partner and Pentair as the supplier of the upgrade part, their latest project is to build a plant in Kalundborg with a capacity of 5,000 Nm^3 per hour. If the capacity of the plant is fully utilized, the upgrading facility will be able to deliver energy annually to approx. 1,500 homes / 20,000 cars.

The biogas market is evolving

Steen Jensen is the sales manager for biogas within Pentair, and he says: "This is the first biogas upgrading facility based on the amine technology we have sold. Our Danish department in Fredericia has extensive experience of amine-based process plants, and this is the experience we have included in this project. We have installed more than 300 plants based on this technology at a global level, and over 1,400 CO_2 plants in total.

In addition, our department in the Netherlands has sold 40 biogas upgrading plants based on membrane technology, so we can offer both types to the market.

There is no doubt that we are looking into a market which is evolving, and we will do what we can to advise customers in relation to the best technology in the given case, but also to ensure that customers get the best service. We know it is crucial for our customers that their facilities run perfectly, and that any unplanned stops are costly."

> "The most important thing might be the fact that it is a plant without methane emissions"

Zero methane emissions

The fact that Bigadan chose an amine solution from Pentair is due to several factors: it was crucial that the supplier had the right tools to design the solution, in this case both the experience and the advanced simulation programs. In addition, it was important that the solution is 'robust' and can handle difficult biogas sources.

But the most important thing might be the fact that it is a plant without methane emissions. Methane is the major environmental polluter and is 25 times more harmful than CO_2.

The good story

It is important for the biogas industry as a whole to tell the good stories - and this is actually a good story to produce biogas, and even better if it is upgraded end distributed via the grid. Further revenue can be made when the separated CO_2 is cleaned and used in the food and beverage industry, as dry-ice or in industrial applications.

However, Bigadan has not implemented this third option for the time being. Steen Jensen says, "It's a solution we see more and more, but for the customer it is crucial that they have a buyer for the cleaned CO_2. We may, as consumers, still be reluctant to the thought of adding CO_2 produced on manure to our beverages – but it is a good idea, and we know we can clean the carbon dioxide so it's completely in line with the food regulations – so it's probably just a matter of time. But in the meantime, the CO_2 can be used for other purposes," he concludes.

Read more

You can find more information at: www.union.dk and www.bigadan.dk. You are also welcome to contact Steen Jensen at: steen.jensen@pentair.com or at tel .: +45 76 20 77 00.