

XRGI[®] BIOGENIC turns an untapped resource into a source of revenue at Løgstør Wastewater Treatment Plant

Since 2019, Løgstør Wastewater Treatment Plant has been using its biogas production to generate electricity and heat with XRGI[®] BIOGENIC plants from EC POWER. This has enabled Løgstør Wastewater Treatment Plant to reduce its climate footprint – and make money at the same time.

“The best result is that some income goes into our bank account from the sale of electricity,” says a delighted Jens Jørgen Ploumann.

He is Operations Manager for Water and Wastewater at Vesthimmerland’s Utility Company, which handles waste, water, and wastewater in the municipality of Vesthimmerland. In addition, he is responsible for the day-to-day operations at Løgstør Wastewater Treatment Plant. Here, common sense and the bottom line are closely linked to the green transition.

Løgstør Wastewater Treatment Plant is one of the most advanced wastewater treatment plants in Denmark and has the capacity to treat wastewater from 75,000 person equivalents (PE). Located on the harbour in Løgstør, the wastewater treatment plant receives and treats wastewater from Løgstør town and the neighbouring company Farmfood A/S, which produces poultry-based dog and cat food.

The biogenic gas from a digester at Løgstør Wastewater Treatment Plant is used to produce power and heat through cogeneration plants from EC POWER, which means that Løgstør Wastewater Treatment Plant’s energy supply is now less harmful to the climate.

Previously, the plant flared the biogenic gas from the digester. However, this was a waste of resources. “It was a pity,” says Jens Jørgen Ploumann.



Instead, the wastewater treatment plant wanted to take advantage of the gas they otherwise burned - so they could be less damaging to the climate by using an existing but untapped energy source. Therefore, Jens Jørgen Ploumann investigated the possibility of installing gas-powered engines for energy production at the wastewater treatment plant.

“When I discovered EC POWER, I had an epiphany. It was a lucky day when we discovered it was possible,” says Jens Jørgen Ploumann with a smile.

Cogeneration technology with short payback time meets Løgstør Wastewater Treatment Plant’s needs

In April 2019, two XRGI[®] 15 BIOGENIC were commissioned at the Løgstør Wastewater Treatment Plant. Jens Jørgen Ploumann has been fully satisfied with the cooperation between EC POWER and Løgstør Wastewater Treatment Plant in this regard.

“We had some good start-up meetings and some useful dialogues with EC POWER about how things should be done. It looked reasonable,” he says.

The annual electricity consumption of the Løgstør Wastewater Treatment Plant is 1200-1300 MWh.

For space heating they use about 50 MWh per year, while the digester alone has an annual heat consumption of 1400 MWh. Løgstør Wastewater Treatment Plant thus has a large energy demand, which is partly covered by the two XRGI[®] 15 BIOGENIC plants, which run on biogenic gas from the digester.

Jens Jørgen Ploumann says he could easily use another XRGI[®] plant – he has both the gas production and the energy demand for it.

He considers CHP technology to be a perfect fit for the wastewater treatment facility's needs. "We wanted a lot of heat and electricity as a minor by-product. In that way, we utilised the gas and did not have to flare it," he explains.

By 2022, the two installed XRGI[®] 15 BIOGENIC plants have almost paid for themselves.

"Within a year to a year and a half, the investment in the plants will be repaid," says Jens Jørgen Ploumann. However, this is not the only benefit of the plants.

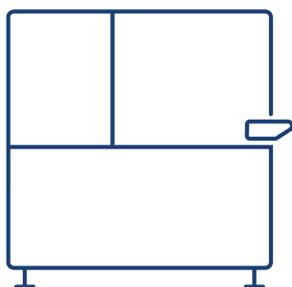
Jens Jørgen Ploumann says that the biggest advantage is the high efficiency of the plants.

"In terms of price, it is fully competitive; in my opinion, you get the highest efficiency for your money here. You make optimal use of your gas. You get the heat you need," he explains.

When asked if the investment has been worthwhile, he answers with a resounding yes.

"Because it's working, there's no hassle. This stuff, it just works," Jens Jørgen Ploumann says and continues: "The plants have complied with what was agreed. There have been no surprises."

XRGI[®]
BIOGENIC



LØGSTØR WASTEWATER TREATMENT PLANT IN FIGURES

Annual power production: 210.000 kWh

ENERGY CENTER
2 x XRGI[®] 15 BIOGENIC
Storage tank
600 kW boiler

ENERGY CENTER performance
Export to the grid: 100 %
Heat coverage for the digester: 100 %

Person equivalents: 75.000 PE
Methane in vol. %: 62-70

Commissioned: April 2019

Do you recognise the challenges?

Contact us for a non-binding meeting about the possibilities of cogeneration at your wastewater treatment facility.



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