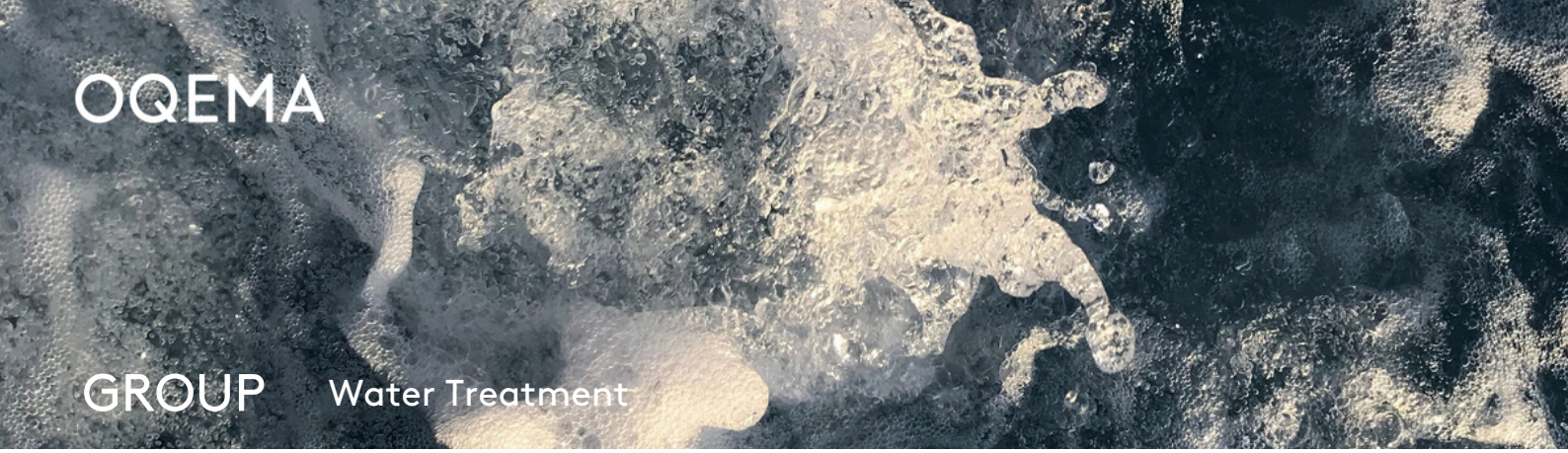


Case Study - Defoamers

Reliable foam control for stable biogas production

How one of Denmark's largest biogas plants reduced foam levels by up to 87.5% with Q-FOAM 321

KEY RESULTS

Foam level reduction	**4 m+ → 0.5 m**
Optimised operating level	**Stable at approx. 1 metre**
Operational benefit	**Improved process stability and uninterrupted biogas production**

INTRODUCTION & PROBLEM

One of Denmark's largest biogas plants approached OQEMA to solve a persistent foaming issue in its anaerobic digesters.
Foam levels regularly reached four metres or more, making the process highly unpredictable and causing severe operational challenges.

The plant faced several issues:

- Excessive foam reducing effective digester capacity
- Process interruptions and operational failures
- Reduced biogas production and associated revenue losses
- Continuous monitoring, including overnight inspections

The customer required a reliable solution that would stabilise the digestion process without negatively affecting the biological culture.

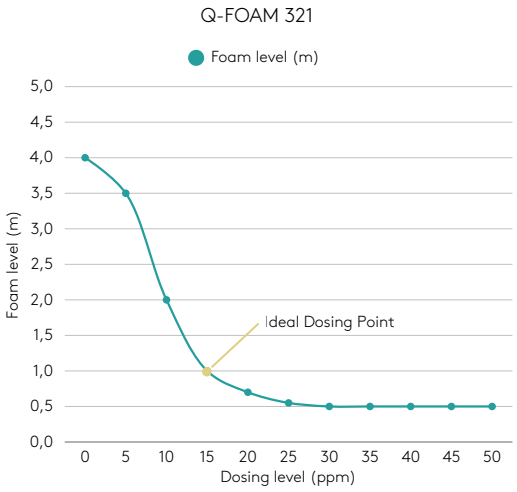
OUR SOLUTION

Following a detailed assessment of the plant and operating conditions, OQEMA's Water Treatment specialists identified the most effective combination of product, dosing point and concentration.

Q-FOAM 321 was selected for its excellent defoaming performance in anaerobic digestion systems, rapidly suppressing foam formation while allowing methane and carbon dioxide to escape efficiently.

Its carefully balanced formulation is fully compatible with the biological process, providing effective foam control without inhibiting microbial activity or causing long-term accumulation.

To achieve rapid foam suppression, OQEMA recommended an initial 30 ppm shock dose, which was later optimised to a cost-effective long-term maintenance dosage once the foam was under control.



RESULTS & CONCLUSIONS

Immediately after dosing, foam levels dropped from more than 4 metres to a maximum of 0.5 metres, restoring stable plant operation.

The initial 30 ppm shock dose was subsequently optimised to a standard maintenance dose of approximately 15 ppm, where foam levels stabilised at around 1 metre for cost-effective and reliable operation.

Today, the plant benefits from predictable foam control, improved digester capacity and more reliable biogas production.

Expert spotlight

"Thanks to Q-FOAM 321 we can feed our systems the way we like to without the fear of foam. This stability allows us to sleep better now because before we had to check foam levels every few hours, also during night shifts."

— Jacob, Plant Manager