

A full-service, stress-free package of benefits

Handing over every aspect of wastewater plant management to the experts is a particularly interesting proposition for dairies where changes in production are an everyday occurrence. It makes managing both the plant and personnel easier. It also has other positive results, such as reducing electricity bills, as was the case for an EnviroChemie client.

A wastewater plant is, in some respects, similar to a cow's stomach. Wastewater plants with an anaerobic biological treatment stage or a digestion tank produce methane, or biogas – just like a cow. Changing a production schedule is like changing a cow's feed and can therefore cause disruptions. "One of our dairy clients started a new product with zero-protein milk," recalls Ulrich Böhm, Operation Management and Contracting Manager at EnviroChemie. This meant that the bacteria in the wastewater plant had to deal with a different nutrient ratio and therefore reacted differently. This could have led to unacceptable discharge values due to inadequate wastewater treatment. However, the dairy's early collaboration with EnviroChemie ensured suitable countermeasures were in place to prevent this from happening.

Full-service water management

Milk producers are confronted with the challenge of wastewater treatment on a regular basis such as new products or fluctuating production levels which in turn affect the wastewater plant. In these cases, it makes sense to have someone looking after the plant who is familiar with every aspect of the various parameters and changes.

Wastewater management is a complex system and not every dairy has a specialist in this area on the team. "You can certainly get to know the ropes but in many situations, experience is what counts," says Böhm. "Our team includes group leaders with 30 years' experience in



Image: Wastewater treatment at a dairy involves managing many different tasks.

dealing with wastewater treatment plants so there is not much they have not already seen. And if something occurs that they are not familiar with, then our process engineers have almost certainly dealt with it." Böhm manages external clients' wastewater plant maintenance, or operation management. This means that EnviroChemie coordinates and guides the employees who maintain the on-site plant. In addition to this, EnviroChemie employees are supported on site at the wastewater treatment by plant specialists from a wide range of disciplines at EnviroChemie head office and other operation management centres. The water specialist also prepares custom water treatment products and takes care of sludge disposal, thus meeting the contractual requirements for integrated wastewater and water management at the company.

Uniquely, EnviroChemie is fully involved in all the different demands of a dairy. This means that measures such as water recycling, which is becoming increasingly important for busi-

nesses, can be managed profitably. For example, water can be recovered from the vapour condensate. This keeps costs down on the freshwater side and reduces the wastewater introduced into the receiving water and the sewerage system. Dairies are thus able to improve their water footprint and their environmental balance.



Picture: EnviroChemie's specialist personnel carry out the necessary water technology adjustments during plant management

And this was the case for the dairy client who approached EnviroChemie a few years ago with a plan to expand production in several stages in the near future. "The contract we received stated that specific milestones and timings had to be met for setting the plant for the increased load," says Böhm. His team took over the operation management and the client benefited from lean project management. EnviroChemie was independently responsible for every aspect: the process engineering design, the additional construction of tanks, and installing the aggregates or motors. "So, if something does not work later on, we will take responsibility for it," emphasises Böhm.

Freed from tasks that take a great deal of time

Handing over the plant to experts can sometimes reveal positive upsides. "We were able to reduce electricity costs directly on the existing plants by changing the way the blowers operate," explains Böhm. In addition to this,

the plant service schedule is also part of the operation management concept, including preventive maintenance, repairs and standard daily inspection tours. "These sorts of thing can otherwise take up a vast amount of time in a day's production," says Böhm. And in many cases, the client would have to deal with a third-party supplier for this work anyway. Clients using EnviroChemie's operation management can dispense with all of this: "They spend less on coordination, less on personnel, and we are often able to source spare parts at a better price to boot," summarises Böhm. These operation management models are usually calculated on a fixed cost percentage which covers, for example, personnel and maintenance combined with a variable component based approximately on the quantity of wastewater.

Operation management can also be extended to cover financing the plant: one option is for a company such as EnviroChemie to finance, build and operate the plant. "This means the wastewater plant stays on our books which can be an interesting alternative for our clients," explains Böhm. Particularly bearing in mind that wastewater plants produce nothing from an economic point of view. Or, as a com



Image: An on-site contact for chemicals, sludge and spare parts reduces the invoicing and supplier negotiation workload

mon saying about wastewater disposal would have it: "It offers no return, but everyone needs it." Böhm is convinced that contracting out a plant can therefore be an attractive option for many dairies in times of favourable financing.



With a contract, EnviroChemie pre-finances the wastewater plants – protecting the liquidity of the dairy (photography von Mirjana Ristic Damjanovic)

Safety

Availability is also a watchword. "On some production sites, breakdowns can quickly run to a million Euros a day," acknowledges Böhm. "Clients therefore want to be certain that they really can contact someone at any time, even at 8 pm on Christmas Eve." Although many companies have their own on-site standby services, these companies do not necessarily know about wastewater plants and therefore still rely on external support. In these cases, time frequently costs a great deal of money. Operation management, on the other hand, ensures safety.

From start to finish at a glance

In addition to this, sludge disposal has also become an important topic for dairies, particularly in Germany where an amendment to the law has changed the situation. Since it has become more difficult to allow sludge to be spread on fields, dairies are now subject to additional costs to the point at which there are no longer any tanks for disposal ... However,

there are more favourable solutions depending on the site and situation, says Böhm. Experience and expertise are also decisive factors here in identifying the best alternatives.

As far as Böhm is concerned, the overall package with all these benefits is the decisive reason why dairies should consider the operation management model: "The positive thing is that we really look at everything from start to finish," he stresses. If all the different design steps in the life cycle of a plant, from the planning, through construction, to future expansions, are each dealt with by different experts, this will automatically lead to knowledge gaps and increased costs: "When we build and support a plant from a single source, we avoid these interfaces, offering both technical and financial benefits," says Böhm.

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