CAPTURO™
HIGH RECOVERY REVERSE OSMOSIS

CASE STUDY I Food & beverage

WATER TECHNOLOGIES

VEOLIA

| The client's needs

The existing treatment plant, which is obsolete and already heavily loaded, will not be able to handle the estimated 30% increase in effluent.

In order to continue to comply with the discharge standards, Limelco has entrusted VWT Belgium with the construction of a new wastewater treatment plant with a capacity of 2,880 m³/d.

| The solution

This future installation will consist of two buffer basins, pre-treatment with screening and flotation, aerobic treatment in the form of a **membrane bioreactor** (MBR) with nitrogen and phosphorus removal and sludge treatment. This will ensure that the water quality of the effluent is suitable for discharge to surface waters.

In addition, in an effort to reduce its environmental impact, the client has approved the integration of a reverse osmosis plant allowing the reuse of its effluent. This unit will be composed of a **CaptuRO** system, a major technological innovation of the Veolia group. This is a **semi-batch reverse osmosis** plant that allows for higher hydraulic recovery while minimizing the potential for membrane scaling and fouling.

Zonhoven, Belgium

| The client

Limelco is a producer of dairy products located in Zonhoven, Belgium. Its production capacity is planned to be further expanded in the coming years, including a new butter production line.

LIMELCO

Key Figures

2 880 m³
day flow of WWTP

> 75 %
hydraulic recovery

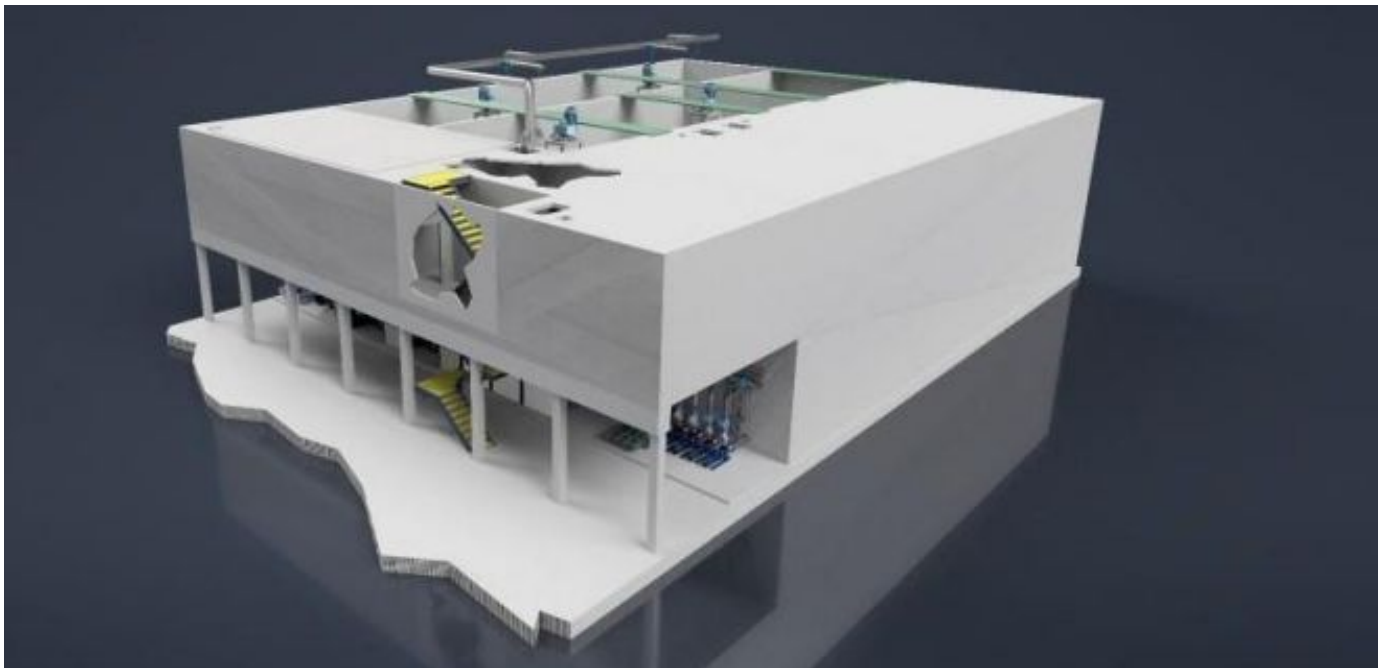
| The benefits

- **Compliance with discharge standards**
- **Reduction of the ecological footprint on water**
- **Reduction of discharge costs**
- **Saving on chemicals**
- **Energy savings**

| Process description

A physico-chemical DAF unit as pre-treatment followed by an aerobic post-treatment with MBR and CapturRO for water reuse in production.

The biological and DAF sludges are dewatered by a centrifuge and used in an external digester for biogas production.



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