80% WATER REUSE AT SOLAREC

CASE STUDY I Dairy

WATER TECHNOLOGIES

VEOLIA

| Client's needs

- **Strict environmental compliance:** maintaining a maximum discharge of 1800 m³/day, eliminating dependence on city water, and maintaining water quality according to standards. Currently, the wastewater treatment plant processes **3200m³/day** = 2600 recirculated and 600 m³ of additional water.
- **Reducing fats and pollutants in the discharge** to improve the performance of the wastewater treatment plant.
- **Resource optimisation:** reducing dependence on potable water and increasing water reuse on-site.
- Adaptability to an increase in production capacities: moving from a treatment of **65 m³/h to 135 m³/h** to support growth.

| The solution

2012: Initial rescue of the wastewater treatment plant

- Installation of a **buffer tank** to stabilize hydraulic flows and a **DAF** (Dissolved Air Flotation) to reduce fats.
- Result: **99% fat elimination**, ensuring that discharges meet standards.

2014: Implementation of POTA 1 (reuse)

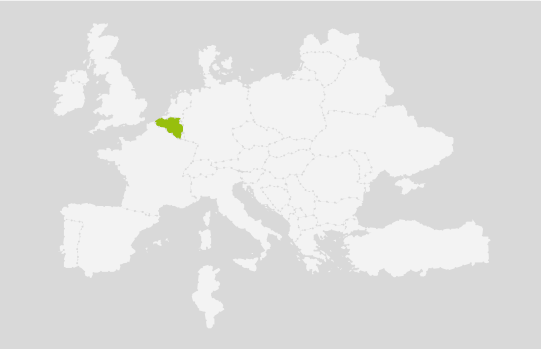
- Design of an advanced treatment unit using technologies such as **Bio-protector, Ultrafiltration (UF), Reverse Osmosis (RO), and Chlorine Dioxide Disinfection.**
- Production flow of reusable water: **50 m³/h** (1200m³/day), intended for a short circuit.

2017: Extension with POTA 2 (reuse)

- Addition of a **MBR** (Membrane Bioreactor) system on the effluent, RO, disinfection, increasing the production of reusable water by 17 m³/h (400m³/day). **DAF** on the balance of the effluent, evacuation of light bio-sludge (selection)
- Result: Wastewater treatment plant capacity increased to **115 m³/h thanks to improved biology**.

2023: POTA 3 with CapturRO™ (reuse)

- **2nd MBR line** and integration of an innovative solution with CapturRO™, producing an additional 42 m³/h (1000m³/day) of reused water.
- Wastewater treatment plant capacity **increased to 135 m³/h** (3200m³/day)



Recogne, Belgium

| The client

SOLAREC, the largest dairy in the Belgian Ardennes (1.6 billion liters of milk/year), is committed to minimizing its environmental impact while optimizing its water resource management. With a constant increase in its production capacity, the site had to adapt its water treatment infrastructures to meet strict legal constraints and water supply challenges.

SOLAREC

Key figures

80%
water reuse

99%
fat elimination

135 m³/h
Wastewater treatment plant capacity

| Advantages

- **Enhanced Compliance:** Ensuring compliant discharges, even in a protected environment.
- **Cost Reduction:** Less reliance on potable water and recycling up to 80% of wastewater.
- **Operational Flexibility:** Modular solutions adapted to future site developments.

| Zoom on CaptuRO™

In 2023, SOLAREC took a new step by adopting CaptuRO™, an advanced reverse osmosis water treatment and reuse solution developed by Veolia Water Technologies.

Why is CaptuRO™ a game-changer?

- It has the ability to **eliminate complex pollutants without resorting to intensive chemical treatments**.
- It has a **reduced carbon footprint**, thanks to its energy-efficient design.
- It is a high-efficiency hydraulic system, enabling a significant **reduction in water footprint.**
- It features **optimized semi-batch operation**, limiting fouling and biofouling, which extends the life of the membranes and reduces maintenance needs.

CAPTURO, therefore, aligns itself with an approach combining technological innovation and sustainability, perfectly meeting SOLAREC's environmental and economic objectives.

Veolia Water Technologies UK
Contact us
www.veoliawatertechnologies.co.uk