

Veolia provides wastewater recycling for Arla Dairy

Food & Beverage | Case Study

The Client

Aylesbury, UK -- Arla Foods is a global dairy company and a cooperative owned by dairy farmers. They have production facilities in 12 countries. Arla appointed N G Bailey as Principal Contractor for the utilities and the energy centre for the fresh milk processing facility that processes one billion litres of milk annually, and they selected Veolia to deal with wastewater in this environmentally sensitive area.



Key Data

- Start-up Date: 2013
- Contract Type: Design & Build
- Application: Wastewater
- Flow rate: 500m³/d – COD: 5.4t/day
- Technology: Memthane®

The Client's Needs

Arla Foods required an advanced wastewater treatment and water recycling facilities for their new £150m dairy in Aylesbury. The new fresh milk processing facility processes one billion litres of milk annually. Arla wanted to create the first zero carbon fresh milk processing facility in the world and Veolia provided the technology.

The Solution

The plant treats 500m³ per day of wastewater containing 5.4 tonnes per day of COD. At the heart of the wastewater treatment plant is a Memthane® anaerobic membrane bioreactor. Developed by Veolia Biothane, Memthane® combines the advantages of anaerobic treatment with external crossflow ultrafiltration. The unique and patented mixing system in the Memthane® reactor ensures preferential removal of inorganic solids and optimises reactor performance to remove up to 99% of the COD.

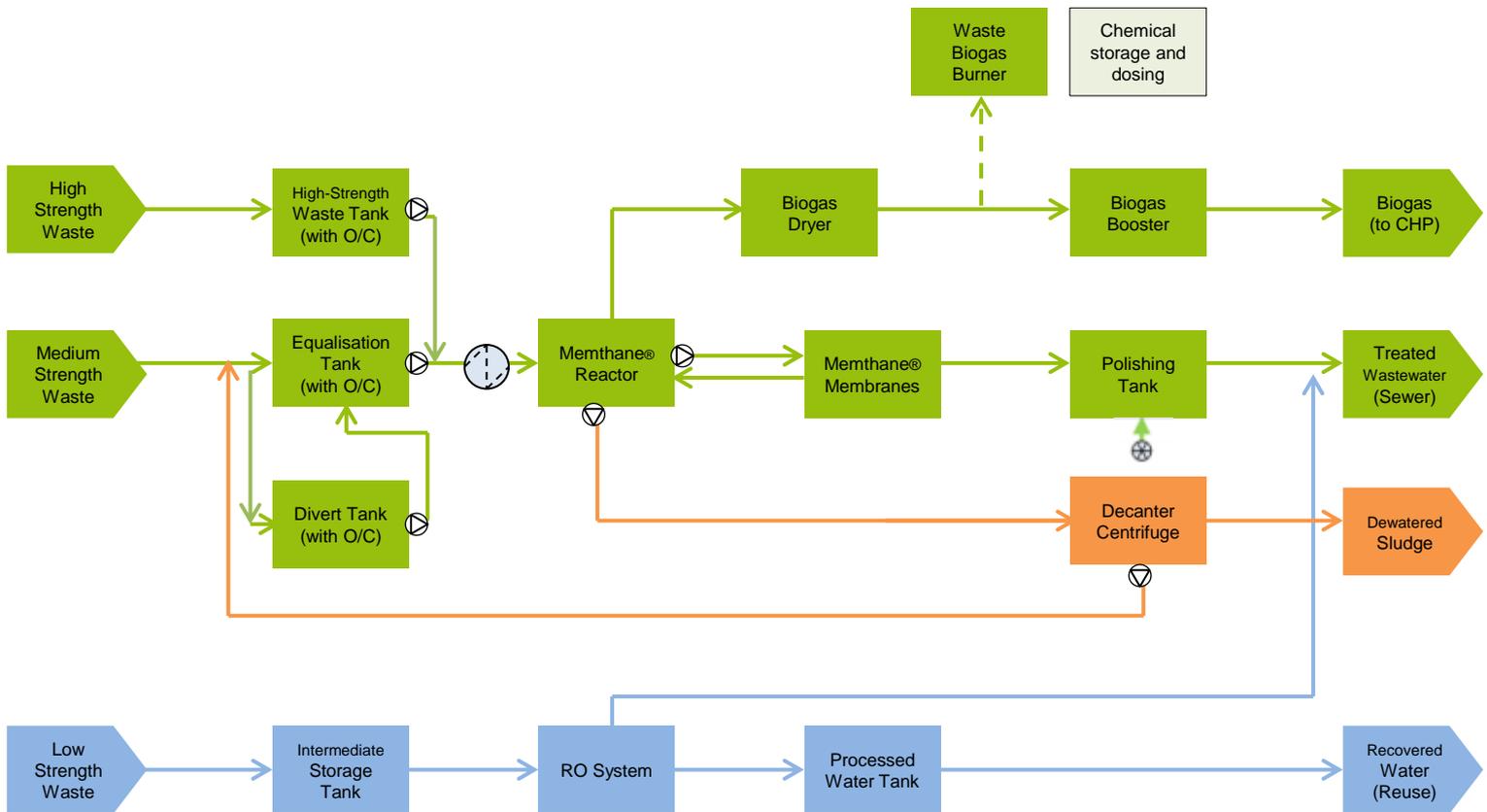
Throughout the design stage, Arla evaluated the potential impact of the dairy on the environment and has been committed to utilising the best available construction techniques, advanced process technologies and



cutting edge renewable energy opportunities. Accordingly low strength wastewater and grey water is treated in a reverse osmosis plant and recycled to the dairy for CIP. The biogas generated by the process is used to fuel the on-site CHP plant, helping Arla in its aim to be carbon neutral.

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Process Description



Results

Veolia has provided a differentiating solution which allows ARLA to have a carbon neutral facility in operation. Veolia's Memthane® treatment facility proved to have a maximum energy and water recovery, through a most robust and reliable process configuration.

BENEFITS CLIENT

- Carbon neutral site
- Maximizes COD + TSS removal, 99% removal COD
- Eliminates disposal costs
- Generates methane-rich biogas

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