

A Green Wastewater Solution for Arla

Food & Beverage | Case Study

The Client

Arla Foods, Aylesbury – Arla is a global dairy company and a co-operative 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.



The Client's Needs

The new £150m Arla Process and Packaging Facility in Aylesbury will process up to one billion litres of milk a year from British farms.

Arla planned the new Dairy as a showcase of sustainable development, applying advanced process technologies and renewable energy solutions, targeting a zero carbon facility with zero waste to landfill.

The Solution

To support this concept, Veolia installed a **Memthane®** wastewater treatment solution, with additional rainwater harvesting system.



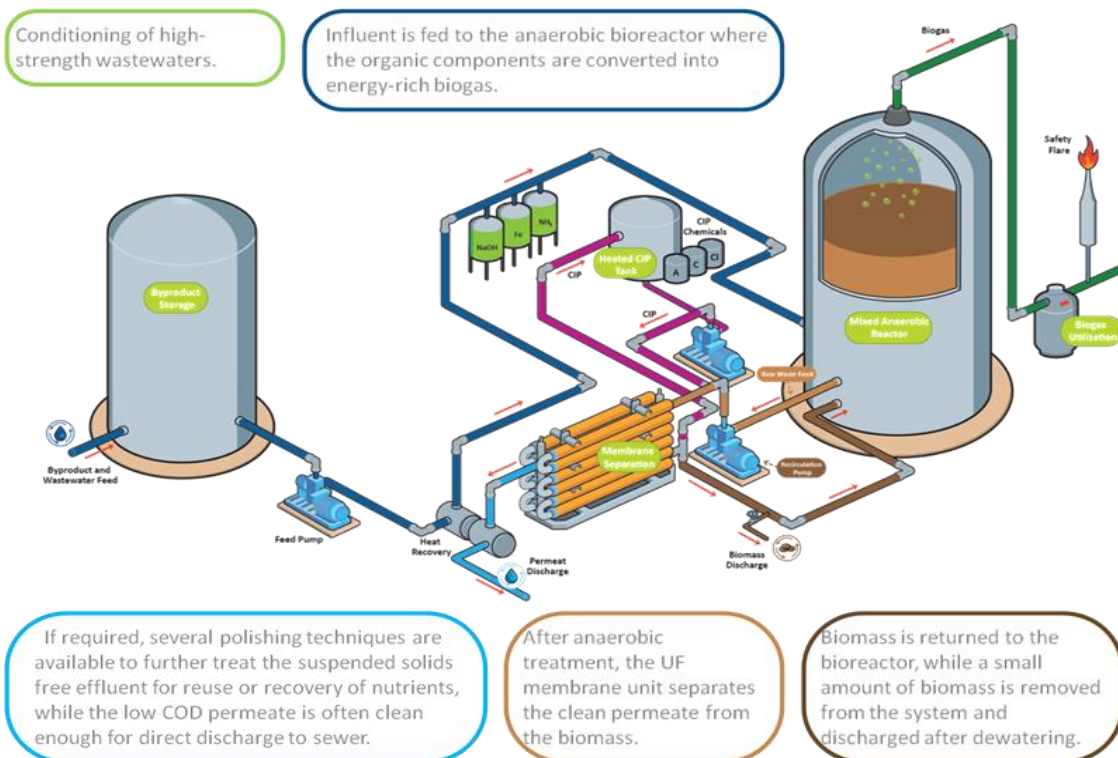
Memthane® is an Anaerobic Membrane Bio-Reactor (AnMBR) which maximises renewable energy production while producing superb quality effluent that can be reused or discharged directly to sewer. This leading-edge technology, developed by Veolia subsidiary Biothane, delivers a unique, small footprint solution that offers an array of benefits, reducing disposal costs while generating valuable biogas.

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Process Description

Throughout the design stage, Arla evaluated the potential impact of the dairy on the environment and was committed to utilising the best available construction techniques, advanced process technologies and cutting edge renewable energy opportunities. Accordingly the biogas generated by the Memthane® process will be used to fuel the on-site CHP plant, helping Arla in its aim to be the first zero carbon fresh milk processing facility in the world.

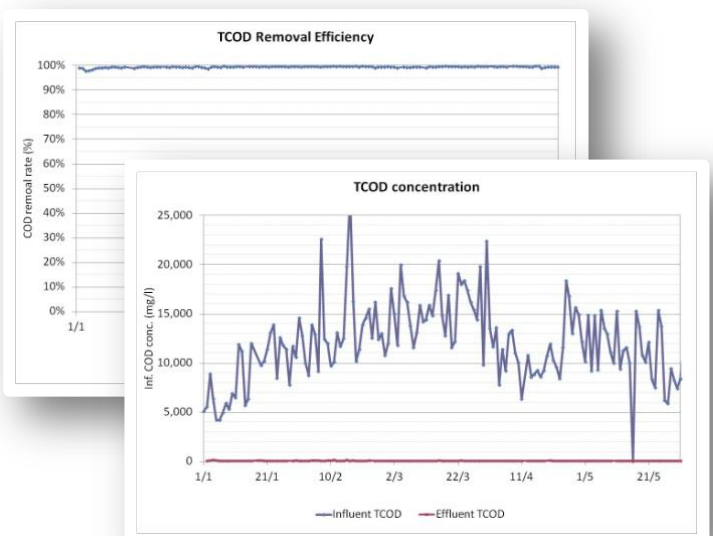
The Memthane® wastewater treatment plant at the Arla dairy treats just over 500m³ per day of wastewater, typically containing 10-12 g/l TCOD. The average TCOD load within the feed is approximately 5.2 tonnes/day.



Performance

Despite the high concentration, and significant variation, of TCOD within the influent, the performance of the Memthane® system has proven to be robust; continuously producing treated effluent of exceptional quality.

Based on all 2014 data, the average TCOD removal is 99.4%. Additionally, the pore size of the UF membranes ensures a permeate that is effectively free from suspended solids.



Veolia Water Technologies

tel. +44 (0) 203 567 7400 • fax +44 (0) 203 567 7401

www.veoliawatertechnologies.co.uk