

Methanization, Sines, Portugal

Artlant, DBO multi-utilities facility



**ANAEROBIC DIGESTION
LIMITED
ENVIRONMENTAL IMPACTS
CIRCULAR ECONOMY**



CONTRACT SCOPE

Site: Sines
Scope: Multi-utility treatment plant

CONTRACT DATA

Duration: 15 year contract
Starting date: 2008
Client: Artlant

ACTIVITY SECTOR

Methanization
Circular economy

EXPERTISE

ANAEROBIC DIGESTION

The challenge

Artlant is a main producer of performs for the PET container industry as well as a PET seller. The Sines site produces 700 000 tons/year of PTA, which is used as raw material for PET (polyester) production. The plant relies on last generation PTA technology. When launched, the entire project was designated “project of national interest” by the Portuguese government.

In Europe, it's the second largest PTA plant by capacity.

Veolia has been awarded a 15-year contract after an international competition to meet Artlant requirements for design, build and operate a utilities production plant (vapor, electricity, demineralized water, industrial gas, effluent treatment).

Veolia's solution

Being able to handle the project from design to operation

Supplying best in class solution as to be aligned with the overall Sines project, a project sensitive to the client and the country government

Limiting environmental impact of the site was a major objective: effluent at the outlet of the ETP should meet quality requirements to be discharged to domestic effluent treatment plant, energy consumptions should be lowest to the minimum, and waste should be limited.

**700ktons/year
of PTA produced
by the plant**

**4800m3
of anaerobic
digestion
capacity**

**70 ton COD/day
and 6000 m3/day
of treatment
capacity**



PLANET

Limited environmental impact and Circular Economy



WOMEN & MEN

25 employees

Commercial Use ONLY

Update: 2014

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Created by:
I&M department

Current contract : ●

Veolia's offer has been optimized to limit environmental impacts, in particular by installing an anaerobic effluent treatment process in order to reduce the volume of waste and recover the biogas. Biogas is used instead of natural gas to feed a boiler which produces high pressure steam for internal consumption of the site. This boiler also has a safety role and shall be available to guarantee the continuous demand of PTA plant in case the principal feeding boiler wouldn't produce. Safety has been a top priority during all the project duration. Veolia provided environmental friendly solution in respect with chemical industry standard.

The utility facility is operated by 25 people, trained in similar facilities managed by Veolia. These local teams have been associated very early in the project.

Veolia managed the whole project with a unique team able to deliver the entire solution, including operation.

Focus on water treatment: Technologies used to treat water:

- Heat exchangers
- Anaerobic treatment with Biobed® EGSB (Expanded Granular Sludge Bed) technology (Biothane)
- Activated sludge
- Clarification by Clariflo®
- Sludge dewatering with centrifuge

The benefits for our client

- Cost reduction : Veolia solution reduces energy costs at a 25% rate which position Sines site as a technological reference point within its sector
- Limited environmental impact
- Smooth organization to adapt to client needs evolution and lower costs.

Process description and flow diagram

